Draft Submittal

(Pink Paper)

HATCH OCTOBER/NOVEMBER 2005 EXAM

05000321/2005301 & 05000366/2005301

OCTOBER 28, 2005, (WRITTEN) AND
OCTOBER 31 - NOVEMBER 4, 2005

Senior Reactor Operator Written Exam

11/28/05

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OCTOBER 28, 2005, (WRITTEN) AND OCTOBER 31 - NOVEMBER 4, 2005

Reactor Operator Written Exam

11/28/05

QUESTIONS REPORT

for HatchExam2005-301R1

1.

While attempting to free a stuck control rod, the Unit Operator observes that the Drive Water Flow Indication does not change when rod insertion is attempted.

Which ONE of the following is a possible cause of this indication?

A. Directional control valve failed closed.

B. Drive water pressure control valve failed closed.

C. Cooling water pressure control valve failed closed.

D. Associated drive water stabilizing valve failed open.

K/A: A1.01 Ability to predict and/or monitor changes in parameters associated with operating the REACTOR MANUAL CONTROL SYSTEM controls including: CRD drive water flow.

References: LT-LP-00101, Rev.4, pg 12
TP-3 System Drawing

A. Correct answer. These valves are always in the closed position.

B. Incorrect since this would decrease drive water flow.

C. Incorrect since this would decrease drive water flow.

D. Incorrect since this would increase drive water flow.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: ACDBACBCBA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Wednesday, June 15, 2005
Revised:

RO Tier:	T2/G2	SRO Tier:	
Keyword:	CRD	Cog Level:	C/A 2.8/2.8
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

2.

Unit 2 is operating at 100% RTP when alarm CRD HYD TEMP HIGH is received. You verify on temperature recorder 130RHR05 that control rod H-8 is reading 355°F. It is suspected that the cooling water orifice is plugged. Control Rod H-8 is at position 24.

Which ONE of the following actions should be taken in accordance with the above annunciator alarm?

A. Fully insert control rod H-8 and isolate the CRD with cooling flow established.

B. Raise CRD system flow in steps to a maximum of 90 gpm until the CRD temperature is below 350°F.

C. Perform scram time testing on control rod H-8 after Engineering has performed an evaluation on the condition of the CRD.

D. Initiate a condition report to have the CRD flushed per 34SO-C11-005-1S, Loss of CRD System, during the next cold shutdown. No further actions are required.

K/A: A2.06 Ability to (a) predict the impacts of the following on the CONTROL ROD AND DRIVE MECHANISM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Loss of CRD cooling water flow.

References: Annunciator Response 34AR-603-901-1S, Tile 603-140

A. Incorrect since this is the action taken if the CRD has a leaking scram valve.

B. Incorrect since no guidance is given to raise system flow even though this could cool the CRD Mechanism.

C. Correct answer since the CRD temp is above 350°F.

D. Incorrect since this is the action taken if CRD temp stabilizes below 350°F.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CAABCDACBB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T2/G2	SRO Tier:	
Keyword:	CONTROL ROD DRIVE	Cog Level:	C/A 3.5/3.6
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

3.

Unit 2 is operating at 100% RTP. The 2A and 2B MG sets are in Auto control with the Master controller in Manual.

Which ONE of the following describes the operation of the 2A MG set if the MG set oil temperature control valve fails open?

2A MG set speed will...

A. increase and the Master controller ouput signal will cause the scoop tube to reposition and bring speed back to the original value.

B. decrease and the Master controller ouput signal will cause the scoop tube to reposition and bring speed back to the original value.

C. increase and the scoop tube will lock due to positioner motor overload.

D. decrease and the scoop tube will lock due to positioner motor overload.

K/A: K5.02 Knowledge of the operational implication of the following concepts as they apply to the RECIRCULATION FLOW CONTROL: Feedback signals.

References: SI-LP-00401-02, Pg. 24 and 36

A. Correct answer.

B. Incorrect since Recirc Speed will increase.

C. Incorrect since there is no indication that the scoop tube has a lock signal.

D. Incorrect since the speed of the MG set increases and there is no indication that the scoop tube has a lock signal.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: AACCBBDBBA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T2/G2	SRO Tier:	
Keyword:	RECIRC	Cog Level:	C/A 2.6/2.6
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

4.

A Loss of Offsite Power has occurred. Consequently, all five diesels start and tie to their emergency buses. The "B" D/G select switch is in the "Unit 1" position.

Ten minutes later, Unit 1 receives an accident signal due to reactor vessel water level - low low low, Level 1. A few minutes later, Unit 2 receives an accident signal due to reactor vessel water level - low low low, Level 1.

Operations were being conducted from the Unit 1 Remote Shutdown Panel prior to the reactor vessel low level, but no pumps had been started yet.

Which ONE of the following describes the condition of the Unit 1 and Unit 2 RHR systems?

A. Unit 1 A and B RHR pumps running; Unit 2 A and B RHR pumps running. All other pumps are off.

B. Unit 1 A RHR pump running; Unit 2 A and B RHR pumps running. All other pumps are off.

C. Unit 1 A RHR pump is running; All Unit 2 RHR pumps are running. All other pumps are off.

D. Unit 1 A, C and D RHR pumps running; Unit 2 A and B RHR pumps running. All other pumps are off.

K/A: K6.01 Knowledge of the effect that a loss or malfunction of the following will have on the RHR/LPCI: INJECTION MODE: A.C. electrical power.

References: SI-LP-00701-02 pg 19 and 23 of 53
SI-LP-02802-01 pg 11 and 52 of 76

A. Incorrect since the B RHR pump should not be running due to operations from the Unit 1 remote shutdown panel is in progress. Since LOCA/LOSP on both units then the "B" D/G would not supply either unit.

B. Correct answer.

C. Incorrect since the Unit 2 C and D RHR pumps should not be running.

D. Incorrect since the Unit 1 C and D RHR pumps should not be running.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BABDBDCBCD Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

QUESTIONS REPORT
for HatchExam2005-301R1

RO Tier:	T2/G1	SRO Tier:	
Keyword:	RHR	Cog Level:	C/A 3.6/3.7
Source:	M	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

5.
Which ONE of the following lists the plant Modes that it is acceptable to have Shutdown Cooling in operation?

A. 2 and 3 only.

B. 2, 3 and 4.

C. 4 and 5 only.

D. 3, 4 and 5.

K/A: G2.1.22 Ability to determine Mode of operation.

References: Tech Spec SR 3.5.1.2
Tech Spec SR 3.9.7
Tech Spec SR 3.9.8

A. Incorrect since the Startup procedure requires Shutdown Cooling to be isolated prior to entering Mode 2.

B. Incorrect since the Startup procedure requires Shutdown Cooling to be isolated prior to entering Mode 2.

C. Incorrect since the Startup procedure requires Shutdown Cooling to be isolated prior to entering Mode 2.

D. Correct answer. System allowed to be in Shutdown Cooling alignment in Mode 3 per TS SR 3.5.1.2.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: DCBACDCCBA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:		SRO Tier:	T2/G1
Keyword:	RHR	Cog Level:	MEM 2.8/3.3
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

6.

Unit 1 is in Mode 4 with both Division I RHR Pumps running in Shutdown Cooling. An overcurrent condition developes on Emergency Bus "F" which causes it to de-energize.

Which ONE of the following indicates the status of Shutdown Cooling?

A. The "C" RHR Pump has stopped and the "A" RHR Pump is running at full flow.

B. The "B" RHR Pump has stopped and the "A" RHR Pump is running at full flow.

C. The "A" RHR Pump has stopped and the "C" RHR Pump is running at full flow.

D. The "A" and "C" RHR Pumps remain running at the current flows.

K/A: K2.01 Knowledge of electrical power supplies to the following: Pump motors.

References: SI-LP-00701-02, Pg 10 and 19
Figure 01

A. Correct answer since the "C" RHR Pump is fed from this bus. The "A" RHR Pump assumes all of the flow.

B. Incorrect since the "B" RHR Pump is not in Division I and is not running at this time.

C. Incorrect since the "A" RHR Pump is not powered by Emergency Bus "F". This powers the "C" and "D" RHR Pumps.

D. Incorrect since the "C" RHR Pump loses power.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: ADBBCADDBC Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
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RO Tier:	T2/G1	SRO Tier:	
Keyword:	SHUTDOWN COOLING	Cog Level:	C/A 3.1/3.1
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

7.

Unit 2 is operating at 100% power. The 125VDC CAB 2B (2R25-S002) feed breaker trips and cannot be immediately closed. The following alarm actuates:

- 4160 VAC Bus G or 600 VAC Bus D DC Off

Determine which ONE of the following HPCI System components is affected by this failure AND the effect on the system.

A. HPCI Aux Oil Pump; consider HPCI INOPERABLE.

B. Torus suction level switch; consider HPCI OPERABLE.

C. HPCI Flow Indicating Controller; consider HPCI INOPERABLE.

D. HPCI Governor System EG-M Control box; consider HPCI OPERABLE.

K/A: K6.03 Knowledge of the effect that a loss or malfunction of the following will have on the HPCI SYSTEM: A.C. power.

References: SI-LP-00501-05, Pg. 15, 33, 45 and 53
Figure #2

A. Incorrect since this power supply does not supply the Aux Oil Pump. Power supply is R24-S022.

B. Incorrect since this power supply does not supply power to the level switches. HPCI would still be Operable if the switches failed.

C. Correct per power supply list.

D. Incorrect since HPCI would be INOPERABLE under these conditions. This power supply does supply power to this component.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CCCDACCADB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, June 17, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	HPCI	Cog Level:	C/A 2.9/3.1
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

8.

Unit 2 was operating at 80% rated thermal power when a transient occurred causing RPV level to drop rapidly. Offsite power has been lost with all Diesel Generators supplying their respective buses.

Which ONE of the following correctly describes the Unit 2 Core Spray system response?

A. All Unit 2 Core Spray pumps start immediately upon reaching the Core Spray Initiation setpoint.

B✓ All Unit 2 Core Spray pumps start 12 seconds after reaching the Core Spray Initiation setpoint.

C. Core Spray pump 2A starts immediately upon reaching the Core Spray Initiation setpoint and Core Spray pump 2B starts 12 seconds after reaching the Core Spray Initiation setpoint.

D. Core Spray pump 2A starts 12 seconds after reaching the Core Spray Initiation setpoint and Core Spray pump 2B starts 22 seconds after reaching the Core Spray Initiation setpoint.

K/A: A3.02 Ability to monitor automatic operations of the LOW PRESSURE CORE SPRAY SYSTEM including: Pump start.

References: SI-LP-02801-01, pg 46 and 51

A. Incorrect since all Core Sray pumps do not start immediately, they start after 12 seconds.

B. Correct answer since all of the DGs are supplying their respective buses.

C. Incorrect since the Core Spray pumps all start after 12 seconds.

D. Incorrect since all of the pumps start after 12 seconds. The 22 seconds is for the LPCI pump starts.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BADDBBCADD Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	CORE SPRAY	Cog Level:	C/A 3.8/3.7
Source:	M	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

9.

An ATWS has occurred on Unit 2 requiring the initiation of Standby Liquid Control (SLC). Bus 2R24-S012 is de-energized.

Given these conditions, the ____ SLC Pump should be started and _____.

A. "A"; both squib valves should fire.

B. "A"; only the "A" squib valve should fire.

C. "B"; both squib valves should fire.

D. "B"; only the "B" squib valve should fire.

K/A: K2.01 Knowledge of electrical power supplies to the following: SBLC pumps.

References: SI-LP-01101-01, Pg 9 and 11

A. Incorrect since only the "A" squib valve should fire. The "B" squib valve is supplied from the affected bus.

B. Correct answer.

C. Incorrect since power is only available to the "A" squib valve.

D. Incorrect since power from these components is unavailable.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BBDDBBABBB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Wednesday, June 15, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	STANDBY LIQUID	Cog Level:	MEM 2.9/3.1
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

10.

Unit 1 is shutting down for a maintenance outage with the following conditions present:

- APRMs reading 14-15%.
- IRMs reading mid-scale on range 10.
- Turbine is tripped with bypass valves controlling pressure at 1005 psig.
- MSIVs open.
- OPRM System is Operable.

Which ONE of the following will result from placing the Reactor Mode Switch in the Start/Hot Stby position and what procedure should be used as guidance?

A. MSIVs will close; re-open using 34GO-OPS-001-1S, .

B✓ Reactor Scram; execute 34AB-C71-001-1S, Scram Procedure.

C. Control Rod Block; bypass RWM and continue with 34GO-OPS-013-1/2S, Normal Plant Shutdown.

D. Turbine Bypass Valves close; control reactor pressure using 34SO-B21-001-1S, Automatic Depressurization (ADS) and Low-Low Set System (LLS).

K/A: A2.16 Ability to (a) predict the impacts of the following on the REACTOR PROTECTION SYSTEM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Changing mode switch position.

References: SI-LP-01001-03, pg. 47 and 53 (Table 1)

A. Incorrect since the MSIV close signal is bypassed when not in RUN.

B. Correct answer since APRMs are >13%.

C. Incorrect since you do not continue with the associated shutdown procedure but use the scram procedure. A rod block does occur due to the scram.

D. Incorrect since the Bypass Valves only close on a low vacuum signal.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: BBBCDCAACA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Thursday, June 16, 2005
Revised:

RO Tier:		SRO Tier:	T2/G1
Keyword:	RPS	Cog Level:	C/A 4.0/4.1
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

11.

Which ONE of the following describes the purpose of the 10 second time delay for resetting a reactor scram signal?

A. To ensure all of the Scram Valves complete their stroke.

B. Allows time for all HCU Accumulators to discharge.

C. Allows the Scram Discharge Volume to complete draining.

D. To ensure the control rods reach the fully inserted position.

K/A: K4.08 Knowledge of REACTOR PROTECTION SYSTEM design feature(s) and/or interlocks which provide for the following: Complete control rod insertion following SCRAM signal generation.

References: SI-LP-01001-03, pg. 23.

A. Incorrect since scram valves stroke immediately.

B. Incorrect since HCU Accumulators discharge as pressure decreases. No requirement for the accumulators to discharge.

C. Incorrect since the scram must be reset prior to the SDV being drained since the vent and drain valves are closed upon a scram signal.

D. Correct answer.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: DDDDDBABCC Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	RPS	Cog Level:	MEM 4.2/4.2
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

12.

During a reactor startup at 5% power, the operator notches a control rod from position 06 to 08 and the following indications/alarms occur:

- CONTROL ROD DRIFT annunciator and drift indication on full core display
- 4 rod display indication is blank for the selected rod
- RPIS INOP alarm

Which ONE of the following is correct regarding the RWM response?

A. Withdraw block only.

B. Insert block only.

C. Withdraw and Insert block; the rod will remain selected.

D. Withdraw and Insert block; the rod will be de-selected from the full core display.

K/A: A3.02 Ability to monitor automatic operation of the ROD POSITION INFORMATION SYSTEM including: Alarm and indicating lights.

The RWM will apply both withdraw and insert blocks for a failed rod position. Also, a RPIS inop will result in a select block.

References: SI-LP-05403-03, pg.6
34AB-C11-002-1S, Section 2.0

A. Incorrect since an insert block is also initiated due to RPIS failure.

B. Incorrect since a withdraw block is also initiated due to RPIS failure.

C. Incorrect since the select block unlatches the control rod. The RWM aborts the program.

D. Correct answer.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: DDADACCAAD Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Wednesday, June 15, 2005
Revised:

RO Tier:	T2/G2	SRO Tier:	
Keyword:	RWM	Cog Level:	C/A 3.2/3.1
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

13.

Unit 2 is starting up after a forced outage. The current power level is 30%. Both Rod Block Monitors are determined to be INOPERABLE at 0900 and cannot be repaired for 24 hours.

Which ONE of the following actions will meet the requirements of the Technical Specifications within the specified time?

A. RBM channel A is placed in trip at 1100.

B. RBM channel B is placed in trip at 1500.

C. Both RBM channels are placed in trip at 1700.

D. Reactor power is reduced to approximately 27% at 0950.

K/A: G2.1.11 Knowledge of less than one hour technical specification action statements for systems.

References: Tech Spec 3.3.2.1
Table 3.3.2.1-1

A. Incorrect since one RBM channel must be placed in trip within 1 hour (by 1000) or power reduced to <29% to exit the applicability.

B. Incorrect since one RBM channel must be placed in trip within 1 hour (by 1000) or power reduced to <29% to exit the applicability.

C. Incorrect since one RBM channel must be placed in trip within 1 hour (by 1000) or power reduced to <29% to exit the applicability.

D. Correct answer. This will place the unit at a power level that the RBMs are not required to be OPERABLE.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: DDABADDACC Scramble Range: A - D

Created: Friday, October 08, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:		SRO Tier:	T2/G2
Keyword:	RBM	Cog Level:	MEM 3.0/3.8
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

14.

Which ONE of the following is the basis for requiring 3 IRMs per trip system to be OPERABLE when the unit is in Mode 2 or Mode 5?

A. To provide protection against local control rod withdrawal errors to prevent exceeding the peak energy fuel failure threshold criterion.

B. Ensures overall core characteristics are monitored upon a single failure of another IRM when power is below the APRM downscale setpoint.

C. Provides a backup to the Rod Worth Minimizer system by preventing an out of sequence control rod withdrawal during low power conditions.

D. Ensures the rate of power increase in any part of the core during startup conditions is monitored and prevented from exceeding the analyzed thermal limits.

K/A: G2.2.25 Knowledge of the bases in technical specifications for limiting conditions for operations and safety limits.

References: Tech Spec Bases B3.3.1.1 (1a), pg. B3.3-4

A. Correct answer.

B. Incorrect since a function of the IRMs is to monitor core power but is not the basis for the minimum number of Operable channels.

C. Incorrect since the IRMs do not prevent an out of sequence control rod from bing moved but it does provided mitigation of the resulting power excursion.

D. Incorrect since the IRMs do not monitor a rate of power increase.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: ADDBACACBB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:		SRO Tier:	T2/G1
Keyword:	IRM	Cog Level:	MEM 2.5/3.7
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

15.

Unit 1 is in Mode 2 with the following Intermediate Range Monitor readings:

- IRM A indicates 75 on Range 1
- IRM B indicates 28 on Range 5
- IRM C indicates 30 on Range 3
- IRM D indicates 85 on Range 3
- IRM E indicates 30 on Range 4
- IRM F indicates 28 on Range 4
- IRM G indicates 3 on Range 1
- IRM H indicates 13 on Range 2

Which ONE of the following correctly identifies the status of the Rod Block circuitry?

A Rod Block exists due to .....

A. IRM B.

B. ✓ IRM D.

C. IRM A and G.

D. IRM E and F.

K/A: K4.01 Knowledge of INTERMEDIATE RANGE MONITOR design feature(s) and/or interlock(s) which provide for the following: Rod withdrawal blocks.

References: SI-LP-01202-03 pg 21 and 22

A. Incorrect since reading is >10 and <80 with mode switch in S/U and not on range 1.

B. Correct since >80 with mode switch in S/U and IRM on range 3.

C. Incorrect since the rod block signal is bypassed with IRM on range 1.

D. Incorrect since these readings are >10 and <80 with mode switch in S/U and not on range 1.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BBACAABBBD Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, July 15, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	IRM	Cog Level:	C/A 3.7/3.7
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

16.

Core Verification checks have just been completed for Unit 2 and it has been determined that several fuel bundles need to be repositioned. The SRMs are reading as follows:

- SRM A: 2 cps
- SRM B: 3 cps
- SRM C: 2 cps
- SRM D: 5 cps

Which ONE of the following specifies the locations that fuel movements are permissible?

A. All Quadrants.

B. Quadrants A and C.

C. Quadrants B and D.

D✓ None of the Quadrants.

K/A: G2.1.33 Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.

References: Tech Specs section 3.3.1.2, SR 3.3.1.2.2
SI-LP-01201-00, Figure 3

A. Incorrect since an SRM has to be OPERABLE in the fueled region and an adjacent region.

B. Incorrect since an SRM has to be OPERABLE in the fueled region and an adjacent region.

C. Incorrect since an SRM has to be OPERABLE in the fueled region and an adjacent region.

D. Correct answer.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: DACDABADBB Scramble Range: A - D

Created: Friday, October 08, 2004
Modified: Thursday, June 16, 2005
Revised:

RO Tier:		SRO Tier:	T2/G1
Keyword:	SRM	Cog Level:	C/A 3.4/4.0
Source:	B	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

17.

The range switches for IRMs A, C, E, and G are on Range 3 with the Mode Switch in Start/Hot Stby.

Which ONE of the following identifies the SRM "A" rod blocks that are still active for this condition?

A. Downscale, INOP

B. INOP, SRM Hi

C. Downscale, Detector Not Full In

D. SRM Hi, Detector Not Full In

K/A: K4.06 Knowledge of the SOURCE RANGE MONITOR design feature(s) and /or interlock(s) which provide for the following: IRM/SRM interlock.

References: SI-LP-01201-00, pg.13
Revised such that the question asks which rod blocks are still active vice which rod blocks are bypassed.

A. Incorrect since the Downscale trip is bypassed at this time. Must be on Range 1 or 2 with the Mode Switch in Start/Hot Stby.

B. Correct answer.

C. Incorrect since both of these rod blocks are bypassed under these conditions.

D. Incorrect since the "Detector not full In" trip is bypassed at this time.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: BDBAACDCCB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	SRM	Cog Level:	MEM 3.2/3.2
Source:	M	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

18.

Which ONE of the following describes the Unit 2 APRM system bypass capabilities?

A. One APRM channel in each RPS division may be bypassed by use of the keylock mode switch on the respective APRM chassis.

B. Only one APRM channel may be bypassed by the joy-stick on Panel 603.

C. Up to two APRM channels may be bypassed by the joy-stick on Panel 603 at the same time.

D. One APRM channel may be bypassed by the joy-stick on Panel 603 and another may be bypassed by the keylock mode switch on the APRM chassis.

K/A: A4.05 Ability to manually operate and/or monitor in the control room: Trip bypasses.

References: SI-LP-01203-01 Figure 19

A. Incorrect since the keylock mode switch either INOPs the APRM or it is in OPERATE. It doesn't bypass the APRM.

B. Correct answer.

C. Incorrect since there is only one bypass switch and it can only be placed in one position at a time.

D. Incorrect since the keylock mode switch does not bypass the APRM.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BCDACDCDBD Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	APRM	Cog Level:	MEM 3.4/3.4
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

19.

A "Rod Out Block" alarm has been generated from APRM "B" on Unit 1. The following times indicate when an LPRM was bypassed for APRM "B".

Time	# of LPRMs in Operate
0100	18 inputs
0130	17 inputs
0145	16 inputs
0200	15 inputs

Which ONE of the following indicates the time that the Rod Out Block was generated?

A. 0100

B. 0130

C. 0145

D. 0200

K/A: K5.06 Knowledge of the operational implications of the following concepts as they apply to AVERAGE POWER RANGE MONITOR/LOCAL POWER RANGE MONITOR SYSTEM: Assignment of LPRM's to specific APRM channels.

References: 34AR-603-238-1S, Rev.3

Each APRM must have at least 17 LPRM inputs. Once the LPRM inputs drop to 16 a Rod Out Block is generated. This makes answer C the correct answer.
rip

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CDCACDCADB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Thursday, June 16, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	APRM	Cog Level:	MEM 2.5/2.6
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

20.

Which ONE of the following describes the purpose and function provided by the Reactor Water Level Narrow Range Keepfill System?

A. Provides a continuous backfill to condensing chambers to prevent buildup of noncondensibles in the variable legs.

B. Supplies cool water to the reference legs to prevent the water from flashing to steam during depressurization.

C. Provides a continuous backfill to condensing chambers to prevent buildup of noncondensibles in the reference legs.

D. Supplies cool water to the variable legs to prevent the water from flashing to steam during depressurization.

K/A: G2.1.28 Knowledge of the purpose and function of major system components and controls.

References: SI-LP-04404-01, pg.5

A. Incorrect since the Keep Fill system provides CRD water to the reference leg condensing pots.

B. Incorrect since the purpose is to prevent non-condensibles from migrating down the reference leg and not to prevent flashing to steam.

C. Correct answer.

D. Incorrect since the Keep Fill system provides CRD water to the reference leg condensing pots and is used to prevent non-condensibles from migrating down the reference leg and not to prevent flashing to steam.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CBADCBABDC Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Thursday, June 16, 2005
Revised:

RO Tier:	T2/G2	SRO Tier:	
Keyword:	RVLIS	Cog Level:	MEM 3.2/3.3
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

21.

Unit 1 is conducting a reactor startup after a maintenance outage on the Main Turbine. The following conditions exist:

- Mode Switch position — Start/Hot Stby
- Reactor Pressure — 165 psig
- RCIC System status — Running at normal flow for Operability run

While monitoring the panels the BOP operator notices the "FAIL" light on the RCIC flow controller.

Which ONE of the following describes the effect on the startup and the action to be taken?

A. Reactor pressure must be lowered below 150 psig until the flow controller is repaired.

B. Return the unit to Cold Shutdown and immediately begin repairs on the RCIC flow controller.

C. Reactor startup may continue as desired and Instrument Maintenance should be contacted to replace the controller CPU.

D. Reactor pressure may remain above 150 psig for up to 12 hours to repair the controller and run any required surveillances, otherwise, reduce reactor pressure back below 150 psig.

K/A: A4.08 Ability to manually operate and/or monitor in the control room: System flow.

References: LR-LP-03901-07, pg 8

A. Incorrect since RCIC is still Operable.

B. Incorrect since RCIC is still Operable.

C. Correct answer. Actual RCIC flow is higher than indicated on the controller.

D. Incorrect since there is not a time limit to exceed 150 psig. The controller is still operable.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CDCDBCDADA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

QUESTIONS REPORT
for HatchExam2005-301R1

RO Tier:	T2/G1	SRO Tier:	
Keyword:	RCIC	Cog Level:	C/A 3.7/3.6
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

22.

Which ONE of the following describes the purpose of the Automatic Depressurization System (ADS) Initiation Timer upon a valid initiation signal?

A. Delays opening of the ADS valves long enough to allow HPCI time to recover level, yet not so long to prevent Core Spray and LPCI from adequately cooling the reactor if HPCI should fail.

B. Delays opening of the ADS valves long enough to allow RCIC time to recover level, yet not so long to prevent Core Spray and LPCI from adequately cooling the reactor if RCIC should fail.

C. Delays the start of the Core Spray and LPCI system until sufficient time has elapsed for HPCI and/or RCIC to restore vessel level above Level 3. ADS valves open upon sufficient LPCI or Core Spray discharge pressure.

D. Delays the start of the Core Spray and LPCI systems until drywell pressure and vessel level exceed the scram setpoint concurrently. ADS valves open upon sufficient LPCI or Core Spray discharge pressure.

K/A: G2.1.28 Knowledge of the purpose and function of major system components and controls.

References: Tech Spec Bases B 3.3.5.1 pg B 3.3-96, 109 and 110
SI-LP-03801-01, pg 6.

A. Correct answer. Allows HPCI time to come up to speed and perform its function.

B. Incorrect since RCIC is not sufficient to restore level upon a small break LOCA.

C. Incorrect since the timer does not delay the start of Core Spray or LPCI. Core Spray or LPCI discharge pressure is required to start the ADS timer.

D. Incorrect since the timer does not delay the start of Core Spray or LPCI. Core Spray or LPCI discharge pressure is required to start the ADS timer.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: AACDBCDDDA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, June 17, 2005
Revised:

QUESTIONS REPORT
for HatchExam2005-301R1

RO Tier:	T2/G1	SRO Tier:	
Keyword:	ADS	Cog Level:	MEM 3.2/3.3
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

23.

Unit 2 is at 100% power.

The 2B RHRSW pump has been tagged for maintenance and the 2D RHRSW pump is available for normal operation.

While placing Unit 2 "B" loop of RHR in service for Torus Cooling, the Unit Operator mistakenly attempts to open MO2-F068A, "A" RHR HX. RHRSW Outlet valve.

Which ONE of the following statements describes the consequences of this action?

A. MO2-F068A does NOT OPEN. Torus temperature remains constant.

B. MO2-F068A OPENS, "A" RHRSW HX. flow remains 0. Torus temperature remains constant.

C. MO2-F068A OPENS, then CLOSES when the handswitch is released. Torus temperature starts dropping and then remains constant.

D. MO2-F068A OPENS, "A" RHRSW HX. flow rises. Torus temperature starts dropping.

K/A: K3.01 Knowledge of the effect that a loss or malfunction of the RHR/LPCI: TORUS/SUPPRESSION POOL COOLING MODE will have on the following: Suppression pool temperature control.

References: SI-LP-00701-02 pg 18 of 53
Figure 04

A. Incorrect sine there is not an interlock that prevents this valve from opening under these conditions.

B. Correct answer. No flow is initiated since the RHRSW Loops are not cross connected.

C. Incorrect since temperature does not drop even if this valve opened. Also, the valve is a throttle valve and does not reclose after releasing the switch.

D. Incorrect since flow through the HX does not increase.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BBDDDCCCDB Scramble Range: A - D

QUESTIONS REPORT
for HatchExam2005-301R1

Created:	Wednesday, June 16, 2004		
Modified:	Friday, July 15, 2005		
Revised:			
RO Tier:	T2/G2	SRO Tier:	
Keyword:	RHRSW	Cog Level:	C/A 3.9/4.1
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

24.

Unit 1 is in the process of venting the Torus when Rad Monitor 1D11-K621A failed upscale.

Which ONE of the following describes the effect on the venting evolution and the actions required to continue the evolution?

A. Since only one rad monitor failed then the evolution is not affected at this time. Notify I&C of the failed instrument and refer to TRM T3.3.3, Non Type A, Non-Category 1 Post Accident.

B. Verify the Torus vent valves T48-F318 and F326 are closed. When the monitor is repaired reset the GRP II, reset the rad monitor, and then re-open the Torus vent valves to continue venting the Torus.

C. Alarm CNMT DIV I/II RADIATION HIGH is received and Torus vent valves T48-F318 and F326 automatically close. When the monitor is repaired reset the rad monitor and re-open the Torus vent valves to continue venting the Torus.

D✓ Verify the Torus vent valves T48-F318 and F326 are closed. When the monitor is repaired reset the rad monitor, reset GRP II, and then re-open the Torus vent valves to continue venting the Torus.

K/A: A2.04 Ability to (a) predict the impacts of the following on the PRIMARY CONTAINMENT ISOLATION SYSTEM/NUCLEAR STEAM SUPPLY SHUT-OFF; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Process radiation monitoring system failures.

References: 34AR-602-436
SI-LP-05101-01, pg. 6

A. Incorrect since either rad monitor will cause the GRP II valves to close.

B. Incorrect since you have to reset the GRP II before reseting the rad monitor or the valves will not re-open.

C. Incorrect since the alarm is not initiated from this rad monitor. Also, the GRP II has to be reset.

D. Correct answer.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: D D D B B D C C A B Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Wednesday, September 14, 2005
Revised:

RO Tier:		SRO Tier:	T2/G1
Keyword:	CONTAINMENT	Cog Level:	C/A 2.9/3.2
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

25.

Unit 2 was operating at 100% RTP when a fuel element failure and a Group 1 isolation occurred. Main Condenser back pressure is at 0 psig due to the rupture discs failing.

Which ONE of the following combination of primary containment isolation valves failing to close would most likely result in the highest off-site radioactive release rates?

A. 2B21-F022A INBD MSIV, 2B21-F028A OTBD MSIV, and all turbine control valves.

B. 2B21-F022C INBD MSIV, 2B21-F028D OTBD MSIV, and all turbine stop valves.

C✓ 2B21-016 INBD Steam Line Drain and 2B21-019 OTBD Steam Line Drain.

D. 2B31-F019 Rx Wtr INBD Sample Valve and 2B31-F020 Rx Wtr OTBD Sample Valve.

K/A: K3.03 Knowledge of the effect that a loss or malfunction of the PRIMARY CONTAINMENT ISOLATION SYSTEM/NUCLEAR STEAM SUPPLY SHUT-OFF will have on the following: Off-site radioactive release rates.

References: SI-LP-01301-02, Rev.SI-02, pg 46
Dwg. MPL No. 2B21-1010, Rev.38

A. Incorrect since the turbine stop valves are closed and there is not a flow path to the condenser.

B. Incorrect since there is not a flow path to the turbine due to the control valves being closed and only one MSIV open in each of 2 lines.

C. Correct answer since both steam line drains are open and there is an orifice open around F021 with the condenser breached.

D. Incorrect since these valves alone being open do not provide a path outside secondary containment.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: C B A B B C D D D A Scramble Range: A - D

QUESTIONS REPORT
for HatchExam2005-301R1

Created:	Wednesday, June 16, 2004		
Modified:	Friday, June 17, 2005		
Revised:			
RO Tier:	T2/G1	SRO Tier:	
Keyword:	MAIN STEAM	Cog Level:	C/A 3.6/3.8
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

26.

The following sequence of events occurred for Unit 2:

Entered Mode 3	Sept 1, 2005 at 0500
Entered Mode 5	Sept 3, 2005 at 0700
Core fully offloaded	Sept 16, 2005 at 1500
Rx Vessel level at vessel flange	Sept 20, 2005 at 0700
Total loss of Fuel Pool Cooling	Sept 21, 2005 at 0800

All attempts to re-establish Fuel Pool Cooling per 34AB-G41-001-2, Loss of Fuel Pool Cooling, have failed.

Which ONE of the following is the predicted date and time that water level will reach the top of active fuel if cooling cannot be restored?

(Reference provided)

A. Sept 24, 2005 at 1441.

B. Sept 24, 2005 at 1741.

C. Sept 25, 2005 at 0501.

D. Sept 28, 2005 at 1833.

QUESTIONS REPORT
for HatchExam2005-301R1

K/A: A1.07 Ability to predict and/or monitor changes in parameters associated with operating the FUEL POOL COOLING/CLEANUP controls including: System temperature.

Reference provided: 34-AB-G41-001-2

References: SI-LP-04501-01, pg 4 and 9 of 36
34AB-G41-001-2, Attachment 1, 2 and 3.

A. Incorrect since this date corresponds to 18 days after shutdown. It has been 18 days since Mode 5 was entered.

B. Correct answer. It has been 20 days after entering Mode 3 with the full core offloaded and the fuel pool gates installed. See attachment 2.

C. Incorrect since this data corresponds to 20 days after shutdown with the fuel pool gates removed with the cavity flooded. Per stem the vessel level is at the flange which implies the fuel pool gates are installed.

D. Incorrect since this data corresponds to the correct 20 days after shutdown with the gates installed but this is for a partial offload.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: B C D D B A A D D A Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Wednesday, July 13, 2005
Revised:

RO Tier:	T2/G2	SRO Tier:	
Keyword:	FUEL POOL COOLING	Cog Level:	C/A 2.7/2.8
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

27.

Unit 2 is conducting refueling operations when it is determined that the "Hoist Loaded" setpoint is set at 785 pounds instead of the 485 pounds. The refuel bridge has just removed a fuel bundle from the refuel racks and is preparing to move the bundle to the core.

Which ONE of the following describes the condition of the Reactor Manual Control System at this time?

A. A control rod block exists due to the mast not being full up with the refuel bridge near the core.

B. A control rod may be withdrawn from the core since the hoist doesn't indicate loaded at this time.

C. A control rod block exists due to the fuel bundle loaded on the hoist and removed from the fuel rack.

D. A control rod may be withdrawn from the core because with the Mode Switch in Refuel this always allows one rod to be withdrawn.

K/A: K3.01 Knowledge of the effect that a loss or malfunction of the FUEL HANDLING EQUIPMENT will have on the following: Reactor manual control system.

References: SI-LP-04502-01, pg 12 and 16

A. Incorrect since the refuel platform is not near or over the core.

B. Correct answer. The typical weight of a fuel bundle is 750# and since the setpoint of the main hoist is set at 785# then the hoist loaded lite is not lit.

C. Incorrect since the hoist doesn't indicate loaded.

D. Incorrect since a rod block can still be inserted with the Mode switch in Refuel.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: BBCDDDABCA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T2/G2	SRO Tier:	
Keyword:	REFUEL	Cog Level:	C/A 2.9/3.3
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

28.

Unit 2 is in an ATWS condition with the following conditions present:

- Reactor Power	35%
- MSIV's	Open
- Turbine	Tripped with all Bypass Vlvs failed closed
- Reactor Pressure	1120 psig maximum
- SRV's	Some cycling at setpoints

The Shift Supervisor directs you to open SRV's to stabilize reactor pressure below 960 psig using the preferred sequence of RC RPV Control (ATWS) Table 1.

Which ONE of the following indicates the number of SRV's that are cycling and which SRV's should be opened to stabilize reactor pressure per RC RPV Control (ATWS)?

A. Only 2 SRV's cycling; open SRV F013H and F013A to stabilize reactor pressure.

B. Only 4 SRV's cycling; open SRV F013M, F013B, F013G and F013F to stabilize reactor pressure.

C. Up to 5 SRV's cycling; open SRV F013B, F013G, F013F, F013D and F013L to stabilize reactor pressure.

D. Up to 8 SRV's cycling; open SRV F013H, F013E, F013A, F013C and F013K to stabilize reactor pressure.

K/A: A2.06 Ability to (a) predict the impacts of the following on the RELIEF/SAFETY VALVES; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Reactor high pressure.

References: 31EO-EOP-011-2S, Rev.6
SI-LP-01401-03, pg 9,16 and 35 of 52

A. Incorrect since 4 MSRV's should be open at 1120 psig per electrical setpoint. Two SRV's open is not enough to stabilize pressure since each SRV can only handle 8% steam flow. Reactor power is 35%.

B. Correct answer. 4 SRV's can stabilize reactor pressure due to each SRV handles 8% steam flow with 5% steam flow going to RFP's, SJAE's and steam seals. The SRV's are in the correct sequence per Table 1.

C. Incorrect since 5 SRV's will not be open under these conditions. The sequence is also not correct per Table 1.

D. Incorrect since 8 MSRV's should not be open at this time. The sequence is backwards from that listed in Table 1.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BDBAADCCCA Scramble Range: A - D

QUESTIONS REPORT
for HatchExam2005-301R1

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	SRV	Cog Level:	C/A 4.1/4.3
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

29.

Unit 1 was operating at 25% RTP when the Feedwater Level Control system malfunctioned and caused reactor water level to increase to +56 inches.

Which ONE of the following describes the effect this has on the Main Turbine?

A. The Master Trip Relay energizes from the turbine trip signal and de-energizes the pilot solenoid valves on the Master Trip Solenoid Valve. This depressurizes the Emergency Trip System (ETS) header pressure to allow closure of all turbine valves except the Bypass valves.

B. The Master Trip Relay de-energizes from the turbine trip signal and energizes the pilot solenoid valves on the Master Trip Solenoid Valve. This depressurizes the ETS header to allow closure of all turbine valves except the Bypass valves.

C. The Mechanical Trip Solenoid de-energizes from a signal initiated by the Master Trip Relay which was energized from the turbine trip signal. This depressurizes the Fluid Actuator Supply (FAS) header to allow closure of the turbine stop and control valves only.

D. The Mechanical Trip Solenoid is energized from the turbine trip signal which repositions the Mechanical Trip Valve to the dump position. This depressurizes the ETS header to allow closure of the turbine stop and control valves only.

K/A: K1.03 Knowledge of the physical connections and/or cause-effect relationships between REACTOR/TURBINE PRESSURE REGULATING SYSTEM and the following: Reactor water level.

References: SI-LP-01901-02 pg 24 - 31 of 91
SI-LP-01701-03 pg 19 of 45
Figure 9 and 10

A. Correct answer.

B. Incorrect since Master Trip Relay is energized on a turbine trip and de-energizes the Master Trip Solenoids.

C. Incorrect since the Mechanical Trip Solenoids energize to trip the turbine. Also, this repositions the Reheat Stop valves and Intercept valves.

D. Incorrect since the Mechanical Trip Solenoids are not energized directly from the turbine trip signal. Also, this repositions the Reheat Stop valves and Intercept valves.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: A B A B B D C C C A Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Thursday, July 14, 2005
Revised:

RO Tier:	T2/G2	SRO Tier:	
Keyword:	TURBINE	Cog Level:	C/A 3.6/3.7
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

30.

Unit 1 is at 8% RTP during a startup from a refueling outage. Reactor water level is being maintained using 1N21-F036, Startup Level Control Isolation Valve. The following annunciator alarms:

Panel 603-1 FEEDWATER STARTUP VALVE LOCKED UP

The Shift Supervisor directs you to maintain reactor water level between +15 and +45 inches. Reactor water level is currently +50 inches and steady.

Which ONE of the following methods should be used to control reactor water level within the specified band?

Place 1C32-R619, FW S/U Lvl Control Vlv Controller, in manual and....

A. throttle 1N21-F036 open.

B. open 1N21-F406, S/U Level Control Bypass Valve.

C. throttle 1N21-F036 closed.

D. close 1N21-F406.

K/A: A4.02 Ability to manually operate and/or monitor in the control room: System motor operated valves.

References: 34AR-603-901 (603-116)

A. Incorrect since the valve should be throttled closed to decrease water level to the specified band.

B. Incorrect since this valve is closed and opening the valve would increase water level.

C. Correct answer.

D. Incorrect since this valve is already closed.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CDDCCBBCCA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Thursday, August 18, 2005
Revised:

RO Tier:	T2/G2	SRO Tier:	
Keyword:	CONDENSATE	Cog Level:	C/A 2.8/2.8
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

31.

Unit 1 was operating at 100% RTP when reactor vessel water level started to drop.

Which ONE of the following indicates the vessel level that would require a direct entry into the Unit 1 Technical Specifications?

(Assume all plant systems operate as designed)

A. Low Level 3 is reached.

B. Low Low Level 2 is reached.

C. Low Low Low Level 1 is reached.

D. Vessel level goes below the Top of Active Fuel.

K/A: G2.1.33 Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.

References: Tech Spec 2.1.1.3

A. Incorrect since reaching the scram setpoint is not a Tech Spec entry.

B. Incorrect since reaching the HPCI/RCIC initiation setpoint is not a Tech Spec entry.

C. Incorrect since reaching the ECCS initiation setpoint is not a Tech Spec entry.

D. Correct answer. This is a safety limit and requires entry into TS 2.2.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: DBCCBCDCBA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Thursday, August 18, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	REACTOR WATER LEVEL	Bbg Level:	MEM 3.4/4.0
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

32.

A LOCA has occurred on Unit 2 with only the 2A SBGT train starting. The following alarm has just been received:

- SBGT FLTR A HI-HI TEMP TRIP OR FAN/HTR S/D

Visual inspection indicates a fire does not exist.

Which ONE of the following actions should be performed per the annunciator response procedure?

A. Place 2A SBGT train to OFF and manually start 2B SBGT train.

B. Place 2A SBGT train to OFF and verify 2B SBGT train starts automatically.

C✓ Locally operate the SYSTEM RESET and attempt to restart 2A SBGT train.

D. Momentarily place 2A SBGT train control switch to OFF and then restart 2A SBGT train.

K/A: G2.4.31 Knowledge of annunciator alarms and indications and use of the response instructions.

References: 34AR-657-901-2 (657-093 or 084)

A. Incorrect since the 2A SBGT train is needed. This step is not applicable in this situation.

B. Incorrect since the 2B SBGT train will not automatically start.

C. Correct answer.

D. Incorrect since placing the C/S to off does not reset the trip.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CABDCDACCC Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Thursday, August 18, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	SBGT	Cog Level:	MEM 3.3/3.4
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

33.

A LOCA has occurred on Unit 2 with the following sequence of events:

Time 0	LOCA signal present
Time +.5 sec	RHR A / Core Spray A start
Time +10.5 sec	RHR C / Core Spray B start
Time +20.5 sec	RHR B and D start

Which ONE of the following correctly supports the listed sequence of events?

A. 4160V Emergency Bus "G" is being supplied from offsite power and 4160V Emergency Bus "E" and "F" are being supplied from a Diesel Generator.

B. 4160V Emergency Bus "E" is being supplied from offsite power and 4160V Emergency Bus "F" and "G" are being supplied from a Diesel Generator.

C. 4160V Emergency Bus "E" and "F" are being supplied from offsite power and 4160V Emergency Bus "G" is being supplied from a Diesel Generator.

D. 4160V Emergency Bus "F" and "G" are being supplied from offsite power and 4160V Emergency Bus "E" is being supplied from a Diesel Generator.

K/A: A3.04 Ability to monitor automatic operations of the A.C. ELECTRICAL DISTRIBUTION including: Load sequencing.

References: E11-RHR-LP-00701, pg 37 and 40
E21-CS-LP-00801, pg 21

A. Incorrect since Core Spray B and RHR B would start at time 0.5 sec if they were being supplied from offsite power.

B. Correct answer.

C. Incorrect since RHR C and D would start at time 0.5 sec if "F" bus was being supplied from offsite power.

D. Incorrect since RHR C and D would start at time 0.5 sec if "F" bus was being supplied from offsite power.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BCBDCAACCB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Wednesday, August 17, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	DG	Cog Level:	C/A 3.4/3.6
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

34.

Which ONE of the following describes the power source for the Unit 1 and Unit 2 Start-up Transformers (SAT's)?

A. ✓ All Unit 1 and Unit 2 SAT's are fed from the 230KV grid system Bus 1.

B. All Unit 1 and Unit 2 SAT's are fed from the 500KV grid system Bus 2.

C. Unit 1C and 1D SAT's are fed from the 230KV grid system Bus 1 and Unit 2C and 2D SAT's are fed from the 230KV grid system Bus 2.

D. Unit 1C and 1D SAT's are fed from the 500KV grid system Bus 1 and Unit 2C and 2D SAT's are fed from the 230KV grid system Bus 2.

K/A: K2.01 Knowledge of the electrical power supplies to the following: Off-site sources of power.

References: SI-LP-02701, pg 76 Figure 1

A. Correct answer. Fed from 230KV Bus 1.

B,C and D. Incorrect per referenced drawing.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: AABDCDBCBB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Wednesday, August 17, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	AC DISTRIBUTION	Cog Level:	MEM 3.3/3.6
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

35.

While operating at 94% RTP on Unit 2, an event causes the following conditions: (this is a partial list)

- FEEDWATER CONTROL SYSTEM TROUBLE annunciator.
- Loss of rod position information system.
- Loss of Process computer Plasma Displays.
- Loss of reactor level and pressure recorders.
- MSL flow indicators (2C32-R603A-D) indicate downscale

Which ONE of the following is indicative of these conditions?

A. Loss of Vital AC Bus.

B. Loss of Instrument Bus "A".

C. Loss of Essential Cabinet "B".

D. Loss of 125/250 VDC Bus "A".

K/A: K1.06 Knowledge of the physical connections and/or cause-effect relationships between UNINTERRUPTABLE POWER SUPPLY (A.C./D.C.) and the following: Unit computer.

References: 34AB-R25-001-2, pg.1 and 6
34ABR25-002-2, pg.2

A. Correct answer.

B, C and D. Incorrect since these loads are indicative of loss of Vital AC although some alarms are common to loss of the other systems.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: ACBBADCCBB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 16, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	UNINTERRUPTABLE PWR	Cog Level:	C/A 2.6/2.7
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

36.

Which ONE of the following correctly describes the Unit 2 Vital AC bus normal power supplly?

(Assume normal Vital AC alignment as the initial condition)

A. With the Return Mode switch in Manual, if power swaps to the alternate supply due to loss of normal power, it will automatically swap back to normal if power is regained.

B. ✓ With the Return Mode switch in Automatic, if power swaps to the alternate supply due to loss of normal power, it will automatically swap back to normal if power is regained.

C. If the battery charger supplying the Static Inverter loses power this will cause the Static Inverter Switch to immediately swap to its alternate power source.

D. If the battery charger supplying the Static Inverter loses power then the Static Inverter Switch must be manually swapped to the alternate power source before the battery backup goes below 210V.

K/A: K4.01 Knowledge of UNINTERRUPTABLE POWER SUPPLY (A.C./D.C.) design feature(s) and/or interlocks which provide for the following: Transfer from preferred power to alternate power supplies.

References: SI-LP-02705, pg 5 and 6
Figure 1

A. Incorrect since the power supply will not automatically swap back with the Return Mode switch in Manual.

B. Correct answer.

C. Incorrect since the power supply will not immediately swap due to battery backup.

D. Incorrect since the static inverter switch will auto swap to the alternate source on low voltage.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BCDCCADADD Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Thursday, August 18, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	UPS	Cog Level:	MEM 3.1/3.4
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

37.

The Plant/Station Battery Rooms are provided with HVAC units which maintain the temperature in the rooms between 70°F and 80°F.

Which ONE of the following is also a concern to plant operation if the HVAC units are not operating properly?

A. ✓ The design limit for hydrogen concentration in the rooms may be reached when the batteries are being charged.

B. The batteries may not be able to meet their design capabilities if outside this temperature band.

C. The lead-calcium batteries tend to release lead into the atmosphere and access to the room would be limited when the ventilation is not working properly.

D. The Quarterly Battery SR frequency is lowered to weekly when temperatures are outside of this range.

K/A: K5.01 Knowledge of the operational implications of the following concepts as they apply to the D.C. ELECTRICAL DISTRIBUTION: Hydrogen generatin during battery charging.

References: SI-LP-02704, pg 9

A. Correct answer.

B. Incorrect since the temperature band is room temperature for optimum comfort and is not the battery temperature.

C. Incorrect since lead is not released into the atmosphere.

D. Incorrect since the surveillance frequency would not be changed..

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: ABCACBDDDA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	DC	Cog Level:	MEM 2.6/2.9
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

38.

Which ONE of the following describes the effect on the loads supplied by the Unit 1 125/250 VDC system upon a loss of 600 V Essential Bus 1C?

A. ✓ No effect on plant loads at this time due to 125/250 VDC Bus 1A being supplied by 1A 125/250 VDC Station Battery.

B. No effect on plant loads at this time due to 125/250 VDC Bus 1A being supplied by 1B 125/250 VDC Station Battery.

C. Unit 1 Turbine will trip but the output breakers will have to be tripped manually and the RCIC system will be Inoperable.

D. Unit 1 Reactor Water Cleanup System will isolate and the HPCI system will be Inoperable.

K/A: K6.01 Knowledge of the effect that a loss or malfunction of the following will have on the D.C. ELECTRICAL DISTRIBUTION: A.C. electrical distribution.

References: SI-LP-02704, pg 7-9, and Table 2

A. Correct answer.

B. Incorrect since bus 1A cannot be supplied by battery 1B.

C. Incorrect since no loads would be lost. This is correct if bus 1A was lost.

D. Incorrect since no loads would be lost. This is correct if bus 1B was lost.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: ADBBCBADCC Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Wednesday, August 17, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	DC	Cog Level:	MEM 2.5/2.6
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

39.

The 1B Diesel Generator is running in the TEST Mode per 34SV-R43-002-1S, DIESEL GENERATOR 1B MONTHLY TEST. The following conditions are present for the diesel:

- Lube Oil Pressure	26 psig and steady
- Lube Oil Temperature	225°F and increasing
- Jacket Coolant Temperature	180°F and increasing
- Jacket Coolant Pressure	15 psig and increasing

Which ONE of the following describes the current condition of 1B Diesel Generator and the predicted condition if parameters continue on the current trend?

The 1B Diesel Generator is....

A. still operating and will continue to operate until failure due to all trips associated with the above parameters are bypassed in this condition.

B. tripped due to high Lube Oil Temperature and will remain tripped until the Lockout is reset with a LOCA signal.

C. still operating and will trip momentarily due to high Lube Oil Temperature.

D. tripped due to low Jacket Coolant Pressure and will remain tripped until the Lockout is reset with a LOCA signal.

K/A: A1.01 Ability to predict and/or monitor changes in parameters associated with operating the EMERGENCY GENERATORS (DIESEL/JET) controls including: Lube oil temperature.

References: 34SO-R43-001-1S, pg 5

A. Incorrect since all the trips are not bypassed and will trip when a setpoint is reached. The DG should still be operating.

B. Incorrect since the DG should still be operating.

C. Correct answer.

D. Incorrect since the DG should still be operating.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CCBADDDABC Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Wednesday, August 17, 2005
Revised:

QUESTIONS REPORT
for HatchExam2005-301R1

RO Tier:	T2/G1	SRO Tier:	
Keyword:	DIESEL GENERATOR	Cog Level:	MEM 3.0/3.0
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

40.

Unit 2 has experienced a total loss of offsite power with the 2C" D/G failing to start.

Which ONE of the following components is affected by this situation?

(Assume no manual actions have been taken)

A. 2A Plant Service Water Pump.

B. 2B Control Rod Drive Pump.

C. 2C Residual Heat Removal Pump.

D. 2D Residual Heat Removal Service Water Pump.

K/A: K3.03 Knowledge of the effect that a loss or malfunction of the EMERGENCY GENERATORS (DIESEL/JET) will have on the following: Major loads powered from electrical buses fed by the emergency generator(s).

References: SI-LP-02702, Table 01 and Figure 02

A, B and C are incorrect since these components are not supplied by Emergency Bus 2G. On a loss of offsite power 2C D/G powers Emergency Bus 2G.

D. Correct answer.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: DDDBCBBCBB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Wednesday, August 17, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	ELECTICAL DIST	Cog Level:	MEM 4.1/4.2
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

41.

Unit 1 was operating at 100% RTP when a LOCA and LOSP occurred. All systems started as required. Regarding Plant Service Water (PSW), pressure remained below 90 psig until 48 seconds after the event, at which time PSW pressure increased to 105 psig.

Which ONE of the following indicates the correct lineup for PSW pumps under these conditions?

(Assume no operator action)

A. Only A and B PSW pumps should be running.

B. Only A, B and C PSW pumps should be running.

C. Only A, B and D PSW pumps should be running.

D. All PSW pumps should be running.

K/A: A4.03 Ability to manually operate and/or monitor in the control room: Applicable component cooling water pressure.

References: SI-LP-03301, pg 20 and 21

A. Incorrect since the C PSW pump should have started 45 seconds after event if pressure still ≤95 psig.

B. Correct answer.

C. Incorrect since the D PSW pump starts after 50 seconds if PSW pressure is still ≤95 psig.

D. Incorrect since the D PSW pump doesn't start unless PSW pressure is still ≤95 psig at time T=50 sec.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BCDDDCCABB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Monday, September 26, 2005
Revised:

RO Tier:	T2/G2	SRO Tier:	
Keyword:	FIRE PROTECTION	Cog Level:	C/A 2.5/2.5
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

42.

Unit 1 Reactor Building Ventilation is running with the Standby Gas Treatment (SBGT) Systems in a normal standby lineup. An event occurs with the following conditions present on Unit 1:

- Reactor Water Level	increasing from a low of -25 inches
- Drywell Pressure	1.5 psig and steady
- Rx Zone Exhaust radiation	10 mR/hr and increasing slowly
- Refueling Zone Exhaust radiation	16 mR/hr and steady

Which ONE of the following describes the Secondary Containment ventilation lineup for these conditions?

The SGT systems are ...

A. running with their exhaust to the Main Stack; Reactor Building supply and exhaust dampers closed.

B. running with their exhaust to the Reactor Building Vent Stack; Reactor Building supply and exhaust dampers closed.

C. in their standby lineup; Reactor Building ventilation remains in the normal lineup exhausting to the Reactor Building Vent Stack.

D. in their standby lineup; Reactor Building supply dampers are isolated with the exhaust dampers open to the Reactor Building Vent Stack.

K/A: K1.08 Knowledge of the physical connections and/or cause-effect relationships between SECONDARY CONTAINMENT and the following: Exhaust stack.

References: SI-LP-03001, pg. 14 and 16

A. Incorrect since the conditions do not exceed the setpoints for SGT start and Rx Bldg vent isolation.

B. Incorrect since the conditions do not exceed the setpoints for SGT start and Rx Bldg vent isolation. Also, SGT does not exhaust to the Rx Bldg Exhaust stack.

C. Correct answer.

D. Incorrect since the Rx Bldg supply dampers do not isolate.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CADBCDBADB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T2/G2	SRO Tier:	
Keyword:	REACTOR BUILDING VEN	Cog Level:	C/A 3.2/3.3
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

43.

Unit 2 is operating at 30% RTP shortly after starting up following a refueling outage. Engineering has not yet established new baseline data for Recirc Loop flows and core plate Dp but is expected to have this data within 12 hours. After reviewing the current Recirc Loop flow data and Jet Pump Dp's the Engineer determines that Jet Pump 11 is not meeting the requirements of Tech Spec SR 3.4.2, Jet Pump Operability.

Which ONE of the following is the correct action to take and the reason for the action?

A. Place the unit in Mode 3 within 12 hours due to Jet Pump 11 being declared INOPERABLE based on Engineering judgement.

B. Reduce power to $\leq$ 25% RTP immediately because the Jet Pump data is not required at this power level.

C. Secure the 2A Recirc Pump since the surveillance requirements are not required to be met during single loop ops.

D. Maintain current plant status and perform the Jet Pump surveillance once the new baseline data is received since the surveillance requirements are only required once every 24 hours.

K/A: G2.2.22 Knowledge of limiting conditions for operations and safety limits.

References: Tech Spec 3.4.2
2-SR-3.4.2.1, Rev.7
34SV-SUV-023-2, pg.2

A. Correct answer.

B. Incorrect since once the unit is >25% RTP the surveillance is due within 24 hours. Lowering power to $\leq$ 25% RTP does not get the unit out of the Mode of Applicability.

C. Incorrect since the surveillance data is available. It is true that the surveillance cannot be run in single loop ops.

D. Incorrect since the data is available at this time. Cannot wait until the surveillance is due again.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: AABAACCBAD Scramble Range: A - D

QUESTIONS REPORT
for HatchExam2005-301R1

Created: Wednesday, June 16, 2004
Modified: Thursday, August 18, 2005
Revised:

RO Tier:		SRO Tier:	T2/G2
Keyword:	JET PUMP	Cog Level:	C/A 3.4/4.1
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

44.

Unit 2 had just received a Refuel Floor High Radiation alarm and the Unit Operator reports that the Pressurization Mode Trip Ch. A & B lights are **NOT ILLUMINATED** on panels 1H11-P657 AND 1H11-P654.

Which ONE of the following describes the expected response of the Control Room Ventilation System and the required action to be taken per 34SO-Z41-001-1, Control Room Ventilation System?

The Control Room Ventilation System should ...

A. have shifted to the isolation mode of operation; verify 1Z41-F016, Outside Air Intake Damper, is closed.

B. have shifted to the pressurization mode of operation; manually initiate the pressurization mode per section 7.1.3.

C. have shifted to the purge mode of operation; stop HVAC units 1Z41-B003A and 1Z41-B003C.

D. remain in the normal lineup; verify HVAC units 1Z41-B003A and 1Z41-B003C are running with the supply dampers open.

K/A: A2.03 Ability to (a) predict the impacts of the following on the CONTROL ROOM HVAC; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Initiation/reconfiguration failure.

References: 34SO-Z41-001-1, pg.7 - 10

A. Incorrect since the HVAC should have shifted to the pressurization mode.

B. Correct answer.

C. Incorrect since the HVAC should have shifted to the pressurization mode.

D. Incorrect since the HVAC should have shifted to the pressurization mode.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BBDBABACAB Scramble Range: A - D

QUESTIONS REPORT
for HatchExam2005-301R1

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:		SRO Tier:	T2/G2
Keyword:	CREV	Cog Level:	C/A 3.1/3.4
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

45.

The following conditions exist on Unit 2:

- Reactor Scram	Unsuccessful
- Reactor Power	4%
- Turbine Generator	On line
- Recirc Pump speeds	"A" tripped, "B" at minimum

Concerning the operation of the Standby Liquid Control (SLC) system, which ONE of the following should be performed and why?

A. Continue to run B Recirc Pump to prevent tripping the Turbine Generator and transferring Aux power.

B. Continue to run B Recirc Pump to provide better mixing for the sodium pentaborate.

C. Trip B Recirc Pump to quickly lower power to prevent mandatory initiation of SLC prior to 110°F in the Torus.

D. Trip B Recirc Pump because natural circulation provides adequate mixing for the sodium pentaborate.

K/A: AA1.08 Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION: Standby liquid control.

References: Need reference

A. Incorrect since the power level is well within the capacity of the bypass valves and tripping the turbine is not a concern.

B. Correct answer.

C. Incorrect since the Recirc Pumps should be left running to provide of mixing of sodium pentaborate. Also, at this power level tripping the Recirc Pumps have little or no effect.

D. Incorrec since the Recirc Pumps should be left running. Second portion of answer could be correct since natural circulation is adequate at all power levels.

QUESTIONS REPORT
for HatchExam2005-301R1

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: B B D B C A B A B C Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Thursday, August 18, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	SBLC	Cog Level:	C/A 2.5/2.8
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

46.

Unit 2 is operating at 100% RTP. A fault in the supply breaker for the 2B Recirc Pump causes it to trip. The speed of the 2A Recirc Pump is lowered to approximately 30% as directed by the Shift Supervisor.

Which ONE of the following describes the ICS indications for total core flow and any necessary actions?

Total core flow....

A. indication remains accurate due to the out-of-service loop jet pump flow being subtracted instead of added to the in-service loop jet pump flow. Implement requirements of TS 3.4.1, Recirculation Loops Operating, within 12 hours.

B. indication remains accurate due to the out-of-service loop jet pump flow being added instead of subtracted to the in-service loop jet pump flow. Implement requirements of TS 3.4.1, Recirculation Loops Operating, within 24 hours.

C✓ indication is inaccurate due to the out-of-service loop jet pump flow being subtracted instead of added to the in-service loop jet pump flow. Reactor Engineering should be contacted to enter a substitute value.

D. indication is inaccurate due to the out-of-service loop jet pump flow being added instead of subtracted to the in-service loop jet pump flow. Increase the running Recirc Pump speed to >32% immediately.

K/A: G2.1.32 Ability to explain and apply all system limits and precautions.

References: 34AB-B31-001-2, pg. 3

A. Incorrect since the Total core flow reading is inaccurate. Also, the Tech Spec is required to be implemented within 24 hours.

B. Incorrect since the Total core flow reading is inaccurate and the out-of-service loop jet pump flow is subtracted from the in-service jet pump flow to obtain total core flow.

C. Correct answer.

D. Incorrect since the out-of-service loop jet pump flow is subtracted from the in-service jet pump flow to obtain total core flow. The speed of the running recirc pump does not need to be increased above 41 X 10^6 lbm/hr immediately.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: C D B A D D D B B A Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Friday, September 16, 2005
Revised:

RO Tier:		SRO Tier:	T1/G1
Keyword:	RECIRC	Cog Level:	C/A 3.4/3.8
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

47.

The following plant conditions exist for Unit 2:

- The plant is operating at 100% power.
- All systems are in a normal lineup.
- RPS 'B' MG set trips.

Which ONE of the following isolation valve groups will close?

A. Group 1 Isolation Valve, Inboard only.

B. Group 1 Isolation Valves, Inboard and Outboard.

C. Group 5 Isolation Valve, Outboard only.

D. Group 5 Isolation Valves, Inboard and Outboard.

K/A: AK1.05 Knowledge of the operational implications of the following concepts as they apply to PARTIAL OR COMPLETE LOSS OF A.C. POWER: Failsafe component design.

References: 34AB-C71-002-2, Attachment 2 and 3

A. Incorrect since the Outboard steam line drain isolation closes.

B. Incorrect since the inboard steam line drain isolation valves doesn't close.

C. Correct answer. 2G31-F004 closes.

D. Incorrect since the inboard Group 5 valve (2G31-F001) does not close.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: C D C A B D C D D D Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Thursday, August 18, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	RPS	Cog Level:	MEM 2.6/2.7
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

48.

Unit 1 is preparing to startup after a refueling outage. You are verifying the Tech Spec requirements for AC Sources - Operating. Unit 2 is currently in Mode 4.

Which ONE of the following conditions would prevent the Unit 1 from entering Mode 2 from Mode 4?

A. Only one feeder breaker to 1E ESF bus is OPERABLE with 1E ESF bus fed from 1C SAT and 1G ESF bus fed from 1D SAT.

B. 2D SAT is supplying power to both 2E and 2G ESF buses.

C. The 2A and the 2C Diesel Generators are INOPERABLE and unavailable at this time.

D. The 1F ESF bus is being supplied by 1D SAT with the feeder breaker from the 1C SAT out-of-service.

K/A: G2.2.25 Knowledge of bases in technical specifications for limiting conditions for operations and safety limits.

References: Tech Spec Section 3.8.1 Bases (LCO Section)

A. Incorrect since this is allowed per bases.

B. Incorrect since this meets the power requirments for the LPCI valve power supplies.

C. Correct answer. One of these D/G's is required for SBGT.

D. Incorrect since this is allowed per bases.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: C A C C D A A D A C Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:		SRO Tier:	T1/G1
Keyword:	ELECTICAL DIST	Cog Level:	C/A 2.5/3.7
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	

49.

Unit 2 is operating at 100% RTP when the following alarm occurs:

- 125/250V BATTERY GND FAULT

Which ONE of the following is the reason why it is important to take action to locate and isolate the ground immediately?

A. This will ensure that the battery remains Operable during accident conditions.

B. To clear the indicated alarm so that if another ground occurs it can be detected.

C. This will reduce the load on the battery charger and prevent an overcurrent trip.

D. To avoid a personnel or equipment hazard if a second ground occurs.

K/A: AK3.02 Knowledge of the reasons for the following responses as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER: Ground isolation/fault determination.

References: SI-LP-02704, pg.22

A. Incorrect since there is no documentation to support that the battery can't perform its function with a ground on the system.

B. Incorrect since the alarm will re-flash if another alarm condition occurs.

C. Incorrect since isolating the ground will not prevent an overcurrent trip.

D. Correct answer per CAUTION in AR procedure.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: D A A A A B B B A B Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Thursday, August 18, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	DC	Cog Level:	MEM 2.9/3.3
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

50.

A reactor startup is in progress at 29% power when a turbine trip occurs.

Which ONE of the following describes how the plant will respond?

(Assume no operator action)

A. The reactor will remain critical; the MSRVs will open to control RPV pressure.

B. The reactor will remain critical; the bypass valves will open to control RPV pressure.

C. The reactor will scram when the Turbine Stop valves are 90% open; the bypass valves will open to control RPV pressure.

D. The reactor will scram when the Turbine Control valves are 90% open; the bypass valves will open to control RPV pressure.

K/A: AK2.07 Knowledge of the interrelations between MAIN TURBINE GENERATOR TRIP and the following: Reactor pressure control.

References: N30-MTA-LP-01701, pg. 46

A. Incorrect since the reactor will scram with power above 30% and a turbine trip occurs. The Bypass valves will open to control reactor pressure.

B. Incorrect since the reactor will scram with power above 30% and a turbine trip occurs.

C. Correct answer.

D. Incorrect since the reactor scrams from TSV closure and not TCV fast closure at 90%.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: C A D B D A A C D B Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	TURBINE	Cog Level:	C/A 3.6/3.7
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

51.

Following a Unit 1 reactor scram from low reactor water level the operator reports that numerous control rods indicated Full-In Over Travel and the remaining control rods indicated Full In.

Based on this information, which ONE of the following actions should be taken by the Shift Supervisor?

A. Direct the operator to Initiate ARI and verify Recirc Pumps are runback (≤ 320 rpm).

B. After entering 31EO-EOP-010-1, RC RPV Control (Non-ATWS), exit RC/Q and direct the operator to perform 34AB-C71-001-2, Scram Procedure.

C. After entering 31EO-EOP-010-1, RC RPV Control (Non-ATWS), direction should be given to manually insert control rods per 34AB-C11-005-1S, Control Rod Insertion Methods.

D. Direct the operator to momentarily place the Mode Switch in Refuel to verify the One Rod Permissive light and then move the Mode Switch back to SHUTDOWN.

K/A: AA2.02 Ability to determine and interpret the following as they apply to SCRAM: Control rod position.

References: 34AB-C71-001-2
31EO-EOP-010-1

A. Incorrect since the control rods are fully inserted and the override in 31EO-EOP-010-1 directs exiting the RC/Q leg prior to this action being directed.

B. Correct answer since all of the control rods are fully inserted and 31EO-EOP-010-1 was entered due to low reactor water level.

C. Incorrect since the control rods are fully inserted.

D. Incorrect since 34AB-C71-001-2 does not address moving the mode switch back to Refuel to check this.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: B A A B D A C C D A Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Thursday, August 18, 2005
Revised:

RO Tier:		SRO Tier:	T1/G1
Keyword:	CONTAROL RODS	Cog Level:	C/A 4.3/4.4
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

52.

Unit 2 has received a scram signal but all of the control rods failed to insert. The Shift Supervisor has directed you to insert control rods as directed by 34AB-C11-005-2, Control Rod Insertion Methods.

Which ONE of the following control rod insertion processes can be accomplished entirely from the main control room as directed by 34AB-C11-005-2?

NOTE: The scram signal cannot be reset and only one CRD pump is available.

A. De-energizing scram solenoids.

B. Depressurizing Scram Air Header.

C. Individually driving control rods.

D. Increasing CRD Cooling Water Dp.

K/A: AK1.03 Knowledge of the operational implications of the following concepts as they apply to SCRAM: Reactivity control.

References: 34AB-C11-005-2

A. Correct answer.

B. Incorrect since actions are taken locally in the Reactor Building.

C. Incorrect since actions are taken locally to close the charging header isolation valve.

D. Incorrect since actions are taken locally to close the charging header isolation valve.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: A C A B D D A C D C Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Thursday, August 18, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	REACTIVITY CONTROL	Cog Level:	MEM 3.7/4.0
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

53.

Unit 1 is in Mode 3 in the process of placing Shutdown Cooling in service to reach Mode 4. The following conditions exist:

- Recirculation Pumps — Both secured
- Maximum RHR flow expected — 7500 gpm
- Reactor pressure — 70 psig

Which ONE of the following indicates the minimum reactor water level that is required prior to placing Shutdown Cooling in service under these conditions?

A. at least +32"

B. greater than +33"

C. at least +42"

D. greater than +53"

K/A: G2.1.2 Knowledge of operator responsibilities during all modes of plant operation.

References: 34GO-OPS-013-1, pg. 29
34SO-E11-010-1, pg. 24

A. Incorrect since this is the minimum level for the normal band of Rx Water Level prior to placing SDC in service.

B. Incorrect since this is the minimum Rx Low Water Level if a Recirc Pump is operating or RHR flow is >7700 gpm.

C. Incorrect since this is the maximum level for the normal band of Rx Water Level prior to placing SDC in service.

D. Correct answer per 34SO-E11-010-1.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: D B A C D B B A B D Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Thursday, August 18, 2005
Revised:

RO Tier:	T1/G2	SRO Tier:	
Keyword:	SHUTDOWN COOLING	Cog Level:	MEM 3.0/4.0
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

54.

Which ONE of the following will result in a Reactor Water Cleanup Isolation signal?

A. RWCU Heat Exchanger Room temperature at 130°F.

B. Reactor Water Level at -38".

C. RWCU differential flow between inlet and outlet of 53 gpm for one minute.

D. Local start of Standby Liquid Control Pump "A".

K/A: AA1.04 Ability to operate and/or monitor the following as they apply to LOW REACTOR WATER LEVEL: Reactor water cleanup.

References: G31-RWCU-LP-00301, pg. 34
C41-SBLC-LP-01101, pg. 25

A. Incorrect since the stepoint is 140°F.

B. Correct answer. Setpoint is -35".

C. Incorrect since differential flow setpoint is ≥ 56 gpm.

D. Incorrect since the isolation is from a start of SBLC from the control room.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: B C A A A B D C B D Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Thursday, August 18, 2005
Revised:

RO Tier:	T1/G2	SRO Tier:	
Keyword:	RWCU	Cog Level:	MEM 2.7/2.7
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

55.

Drywell pressure has just reached 1.95 psig on Unit 2.

Which ONE of the following actuations is consistent with this condition?

A. Reactor Scram, RCIC and HPCI Initiation.

B. Reactor Scram, CREV and HPCI Initiation.

C. Low pressure ECCS starts, HPCI and CREV initiation.

D. Low pressure ECCS, ADS and RCIC initiation.

K/A: AA2.02 Ability to determine and interpret the following as they apply to HIGH DRYWELL PRESSURE: Drywell pressure.

References: C71-RPS-LP-01001, pg. 49
E41-HPCI-LP-00501, pg. 28
34S)-Z41-001-1, pg. 4

A. Incorrect since RCIC initiation does not occur.

B. Correct answer.

C. Incorrect since low pressure ECCS does not start.

D. Incorrect since none of these actuations occur from high drywell pressure alone.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: B A A C C C A D D B Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Wednesday, August 24, 2005
Revised:

RO Tier:	T1/G2	SRO Tier:	
Keyword:	DRYWELL PRESSURE	Cog Level:	MEM 3.8/3.9
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

56.

The Unit 2 reactor has scrammed. A small break LOCA has occurred with the following conditions present:

- Reactor Water level	+8 inches
- Reactor Pressure	940 psig
- HPCI System	Injecting
- Drywell Temperature	270°F steady
- Drywell Pressure	20 psig
- Torus Pressure	19.5 psig
- Suppression Pool level	160 inches

Based upon the above conditions, which ONE of the following actions should the operators perform?

A. Initiate Drywell Sprays per 34SO-E11-010-2S.

B. Perform Emergency Depressurization.

C. Vent the Drywell irrespective of offsite release rates per 31EO-EOP-101-2S.

D. Stop injecting into RPV from sources external to primary containment except those required adequate core cooling.

K/A: AA2.02 Ability to determine and interpret the following as they apply to HIGH DRYWELL TEMPERATURE: Drywell pressure.

References: PC-1, Primary Containment Control (31EO-EOP-012-2S)
LR-LP-20306-09, various figures

A. Correct answer per PC/P leg and values with graphs 7 and 8.

B. Incorrect since conditions are not met for Emergency Depressurization.

C. Incorrect since this is not performed unless PCP limit (Graph 13) is exceeded.

D. Incorrect since this would only be done due to exceeding the SRV Tailpipe limit (Graph 6). Conditions are not met for this.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: A A D C A C B D D A Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 16, 2005
Revised:

RO Tier:		SRO Tier:	T1/G2
Keyword:	CONTAINMENT	Cog Level:	C/A 3.9/4.1
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

57.

Unit 1 is in Mode 5 and preparations are being made to support removal of 5 Control Rod Drives. All Tech Spec requirements are met at this time and fuel loading is in progress. While the operator is withdrawing the last control rod he notices the SRM count rate is increasing and stops withdrawing the control rod. It is determined that the wrong control rod has been withdrawn and is stuck at position 36.

Which ONE of the following describes the action(s) to be taken and the supporting document that requires the action(s)?

A. Immediately initiate action to fully insert all other control rods and suspend removal of all CRD mechanisms per Tech Spec 3.10.5, Single CRD Removal - Refueling.

B. ✓ Immediately suspend loading fuel, suspend removal of all CRD mechanisms and commence removing the fuel assemblies associated with the stuck control rod per Tech Spec 3.10.6, Multiple CRD Removal - Refueling.

C. Verify all control rods other than the stuck control rod in a five by five array are inserted and disarmed and immediately initiate action to insert the withdrawn control rod per Tech Spec 3.10.5, Single CRD Removal - Refueling.

D. Immediately move the Mode Switch to SHUTDOWN, suspend removal of all CRD mechanisms and initiate action to insert the withdrawn stuck control rod per Tech Spec 3.10.6, Multiple CRD Removal - Refueling.

K/A: G2.1.33 Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.

References: Tech Spec 3.10.5
Tech Spec 3.10.6

A. Incorrect since Tech Spec 3.10.5 requirements are suspended per TS 3.10.6.

B. Correct answer.

C. Incorrect since Tech Spec 3.10.5 requirements are suspended per TS 3.10.6.

D. Incorrect since there isn't an action to immediately move the Mode Switch to SHUTDOWN. The second half of the actions is an option per TS 3.10.6.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BADCBDADDC Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:		SRO Tier:	T1/G2
Keyword:	TECH SPECS	Cog Level:	C/A 3.4/4.0
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

58.

Unit 1 has undergone a transient due to a fire which resulted in the Control Room being abandoned. The Shift Supervisor is directing actions per 31RS-OPS-001-1, Shutdown from Outside the Control Room.

Which ONE of the following conditions would require opening of breaker 19 in panel 1R25-S001 and breaker CB5A in panel 1C71-P001 to close the MSIV's?

The MSIV's are open and ...

A. reactor water level at -110 inches.

B. an uncontrolled cooldown at 75°F/hr is occuring.

C. there is an indication of a Reactor Coolant System leak.

D. containment Hi Rad condition exists.

K/A: AK3.03 Knowledge of the reasons for the following responses as they apply to CONTROL ROOM ABANDONMENT: Disabling control room controls.

References: 31RS-OPS-001-1, pg. 5

A. Correct answer since level is <-101 inches.

B. Incorrect since cooldown has to be in excess of 100°F/hr.

C. Incorrect since the requirement is indication of a steam leak.

D. Incorrect since containment Hi Rad is not one of the considerations.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: ACADAADAAB Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Wednesday, September 14, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	CONTROL ROOM	Cog Level:	MEM 3.5/3.7
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

59.

While transporting radioactive material from plant Hatch to a disposal site, an inadvertent release of radioactively contaminated material occured. The site is in the process of notifying the Department of Transportion of the event.

Which ONE of the following specifies the time frame in which the NRC must be notified of this condition?

A. As soon as possible but no later than 1 hour.

B. ✓ No later than 4 hours.

C. No later than 8 hours.

D. A report must be submitted within 30 days.

K/A: G2.4.30 Knowledge of which events related to system operations/status should be reported to outside agencies.

References: LT-LP-30004-05, pg. 8

Licensee to verify that this condition does not warrant an Emergency Declaration.

A. Incorrect since the time limit is 4 hours.

B. Correct answer.

C. Incorrect since time limit is 4 hours.

D. Incorrect since time limit is 4 hours.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BDDBCABAAC Scramble Range: A - D
Created: Wednesday, June 16, 2004
Modified: Wednesday, September 14, 2005
Revised:

RO Tier:		SRO Tier:	T1/G2
Keyword:	RAD RELEASE	Cog Level:	C/A 2.2/3.6
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

60.

Unit 1 is operating at 80% power, when fouling of the RBCCW heat exchanger is causing rising RBCCW temperatures. Efforts are underway to place the spare heat exchanger in service.

Which ONE of the following is the primary reason that the operating RWCU pump is tripped?

A. Anticipates the automatic isolation of RWCU system.

B. Increases flow to the Recirc pump fluid drive M/G sets.

C. Reduces heat load on RWCU NRHX.

D✓ Reduces heat load on the RBCCW system.

K/A: AA1.02 Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER: System loads.

References: 34AB-P42-001-1, pg. 2

A. Incorrect since the pump is tripped to reduce heat load although an auto isolation may eventually occur.

B. Incorrect since this does not increase flow to the M/G sets although cooler water will go to the set.

C. Incorrect since it doesn't reduce load but it does lower flow.

D. Correct answer.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: DCDDCDBDAB Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	RBCCW	Cog Level:	C/A 3.3/3.4
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

61.

Unit 2 is operating at 80% RTP when a failure occurs somewhere in the plant air system. The following indications exist at this time:

- Service Air Header Pressure 0 psig
- Non-Interuptible Essential Air Pressure 95 psig
- Interuptible Essential Air Pressure 50 psig

Which ONE of the following is the most likely location of the failure?

(Assume no operator action)

A. A major break in the Service Air header downstream of isolation valve F017, Turbine Building Service Air Isolation Valve.

B. ✓ A major break in the Non-Essential Essential Air header downstream of isolation valve F015, Non-Essential Instrument Air Isolation Valve.

C. A major break in the Interuptible Essential Air header.

D. A major break in the Non-Interuptible Essential Air header.

K/A: AA1.01 Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR: Backup air supply.

References: SI-LP-03501, pg. 32
34SO-P51-002-2, pg. 6

A. Incorrect since Interuptible Essential Air pressure would be 70 psig due to F017 closing.

B. Correct answer.

C. Incorrect since Non-essential air pressure would decrease to 0 psig.

D. Incorrect since Interuptible Essential air pressure would decrease to 0 psig.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BBCABDDACA Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	CONTROL AIR	Cog Level:	C/A 3.5/3.3
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

62.

Unit 1 has been operating at 50% RTP for the past several days when a complete loss of Drywell Pneumatics occurs.

Considering containment temperature and pressure **only,** with no operator action, which ONE of the following describes the expected response?

A. Containment temperature and pressure would both increase.

B. Containment temperature would decrease and containment pressure would increase.

C. Containment temperature would increase and containment pressure would decrease.

D. Containment temperature and pressure would both decrease.

K/A: AK2.09 Knowledge of the interrelations between PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR and the following: Containment.

References: SI-LP-03501 Table 06
SI-LP-03301-02 Figure 2
34AB-T47-001-1

A. Correct since a loss of Drywell Pneumatics causes the Drywell cooler isolation valves to close. This causes containment pressure and temperature to increase.

B. Incorrect since a loss of Drywell Pneumatics causes the Drywell cooler isolation valves to close. Containment temperature would increase.

C. Incorrect since a loss of Drywell Pneumatics causes the Drywell cooler isolation valves to close. Containment pressure would increase.

D. Incorrect since a loss of Drywell Pneumatics causes the Drywell cooler isolation valves to close. Containment pressure and temperature would increase.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: ADBBBBCCCC Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Wednesday, September 07, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	CONTROL AIR	Cog Level:	C/A 3.3/3.3
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

63.

Unit 2 was operating for a week at 50% RTP when an Instrument Mechanic accidentally caused a Group 2 containment isolation signal due to high Drywell pressure. All expected actuations occurred as designed.

Which ONE of the following describes the effect on containment temperature and pressure **only**, including the reason?

Containment temperature will....

A. ✓ increase and containment pressure will increase due to loss of containment cooling.

B. increase and containment pressure will decrease due to isolation of nitrogen backup supply.

C. decrease and containment pressure will increase due to reactor trip and loss of containment venting capability.

D. decrease and containment pressure will decrease due to increased containment cooling with lower heat input.

K/A: AK3.02 Knowledge of the reasons for the following responses as they apply to INADVERTENT CONTAINMENT ISOLATION: Drywell/containment pressure response.

References: SI-LP-01301-02, pg. 38

A. Correct answer. Drywell Chillers are interlocked off on high containment pressure of 1.85 psig.

B. Incorrect since containment pressure would be expected to increase under these conditions.

C. Incorrect since containment temperature would be expected to increase under these conditions.

D. Incorrect since containment pressure and temperature would be expected to increase under these conditions.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: ADADADAAAA Scramble Range: A - D
Created: Wednesday, June 16, 2004
Modified: Wednesday, September 07, 2005
Revised:

RO Tier:	T1/G2	SRO Tier:	
Keyword:	CONTAINMENT	Cog Level:	C/A 3.3/3.5
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

64.

Unit 1 recently entered Mode 4 to repair a leak in the drywell with Shutdown Cooling in service on "B" RHR Loop. Coolant temperature is currently 170°F.

Which ONE of the following conditions would require entry into 34AB-E11-001-1, Loss of Shutdown Cooling?

A. "B" Loop RHRSW flow is decreasing steadily with "A" Loop of RHR available to be placed in service.

B✓ "B" RHR Loop flow has decreased to 6800 gpm. "A" RHR Loop is out of service.

C. Recirc Pump 1B has tripped from an overcurrent signal. The suction and discharge valves remain open.

D. Alarm 603-141, REACTOR VESSEL WATER LEVEL HIGH/LOW, is received and level is stabilized at +10".

K/A: AK2.04 Knowledge of the interrelations between LOSS OF SHUTDOWN COOLING and the following: Component cooling water systems.

References: 34AB-E11-001-1, pg.1 and 3
34AB-E11-001-0S, pg. 1
34AR-603-901-1 (603-141)

A. Incorrect since this is not an entry to Loss of Shutdown Cooling but an entry into RHRSW System Degraded because the other loop of RHR is available.

B. Correct answer since RHR flow is decreasing and is below 7000 gpm.

C. Incorrect since the loss of the Recirc Pump on the loop that does not have SDC being supplied does not affect SDC.

D. Incorrect since Reactor Water Level is stabilized above +3 inches. Otherwise, SDC would isolate.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: BAACBBBAAB Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Wednesday, September 07, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	SHUTDOWN COOLING	Cog Level:	C/A 3.0/3.1
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

65.

While starting up, Unit 2 CRD pump 2A receives a trip signal and will not restart. The 2B CRD pump is tagged for maintenance and is not available. Eventually, several accumulator low pressure lights begin to illuminate on the full core display associated with withdrawn control rods. A reactor scram is directed by 34AB-C11-001-2, LOSS OF CRD SYSTEM, based on LOW REACTOR PRESSURE.

Which ONE of the following is the CORRECT reactor pressure limit which requires entering the scram procedure per 34AB-C11-001-2 and the reason for the limit?

A. 800 # reactor pressure, because this is the ideal pressure for scramming control rods as verified during scram time testing.

B. ✓ 900 # reactor pressure, because this would be the lowest pressure that rod insertion can be ensured due to the loss of accumulators.

C. 940 # reactor pressure, because this will ensure that any control rods that are declared "slow" will meet the maximum scram insertion time.

D. 965 # reactor pressure, because this coinsides with the lowest accumulator pressure alarm setpoint such that multiple accumulator alarms actuate.

K/A: AK1.01 Knowledge of the operational implications fo the following concepts as they apply to LOSS OF CRD PUMPS: Reactor pressure vs. rod insertion capability.

References: Tech Spec 3.1.5 Bases
34AB-C11-001-2, pg.3

A. Incorrect since 800# is not the limit required by the abnormal procedure but it is the pressure used for scram timing.

B. Correct answer.

C. Incorrect since the reason is wrong. The Mode Switch does not need to be placed in Shutdown immediately.

D. Incorrect since the pressure is too high and the reason is wrong.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: BDBBCDAABB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T1/G2	SRO Tier:	
Keyword:	CONTROL ROD DRIVE	Cog Level:	C/A 3.3/3.4
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

66.

Unit 2 is in a refueling outage and a fuel shuffle has just been completed. The following conditions exist at this time:

- Shutdown cooling in service on Loop II
- Approximately half the core unloaded to the Spent Fuel Pool
- Fuel pool temperature 126°F
- RHR Heat Exchanger outlet temperature 145°F and steady
- All SGT Systems have just been declared INOPERABLE

Based on the above conditions, which ONE of the following procedures should be implemented?

A. 34AB-T41-001-2, Loss of ECCS, MCREC or Area Ventilation System(s).

B. 34AB-E11-001-2, Loss of Shutdown Cooling.

C✓ 34AB-G41-001-2, Loss of Fuel Pool Cooling.

D. 34AB-J11-001-2, Irradiated Fuel Damage During Handling.

K/A: G2.4.4 Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.

References: 34AB-E11-001-2
34AB-G41-001-2

A. Incorrect since loss of all SGT systems does not affect Reactor Building Ventilation. Plausible since it is used to maintain the Reactor Building at a negative pressure.

B. Incorrect since RHR Hx Outlet temp is not rising. If temp was increasing then this would be a correct answer.

C. Correct answer due to SFT >125°F.

D. Incorrect since no fuel damage indications has occurred.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CBDAABDBCA Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Wednesday, September 07, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	REFUEL	Cog Level:	C/A 4.0/4.3
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

67.

A steam line break inside containment has occurred on Unit 1. Drywell pressure is steady at +10.5 psig. All automatic actions occurred as designed. Drywell or Torus sprays have not yet been initiated.

Which ONE of the following best describes the effect on Torus water temperature?

A. The saturation temperature of the Torus water will be lower than at normal operating parameters due to the non-condensible gases discharged to the Torus.

B. ✔ The Torus water temperature will initially heat up evenly throughout the Torus due to the design of the downcomers.

C. The Torus water temperature will heat up more quickly below the area of the leak in the drywell due to more energy being distributed to the Torus in that area.

D. The Torus water average temperature is unreliable until suppression pool cooling is established to provide even mixing of the water.

K/A: EA2.06 Ability to determine and/or interpret the following as they apply to HIGH DRYWELL PRESSURE: Suppression pool temperature.

References: Steam Tables

A. Incorrect since the saturation temperature is higher due to the higher pressure.

B. Correct answer.

C. Incorrect since with a steam leak the steam is distributed evenly through the downcomers.

D. Incorrect since the temperature monitors of the torus still work and the average temp is just an average of all the monitors.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BACABBDBAB Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Wednesday, September 07, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	SUPPRESSION CHAMBER	Cog Level:	MEM 4.1/4.1
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

68.

Which ONE of the following corresponds to the highest pressure that the High Pressure Coolant Injection (HPCI) System is designed to provide core cooling for?

(Assume HPCI suction pressure is 10 psig)

A. 1080 psig

B. 1135 psig

C✓ 1179 psig

D. 1325 psig

K/A: **EK2.06** Knowledge of interrelations between HIGH REACTOR PRESSURE and the following: HPCI.

References: SI-LP-00501, pg. 28
34SV-E41-002-2, pg. 16
Tech Spec 2.0 for High Pressure Safety Limit

A. Incorrect since this is the High Reactor Pressure Scram setpoint.

B. Incorrect since this is the highest pressure that HPCI is demonstrated OPERABLE during the high pressure quarterly run.

C. Correct answer per lesson plan (1169 psid from suction pressure to vessel pressure).

D. Incorrect. This is the High Reactor Pressure Safety Limit.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: CADCBADCAD Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Wednesday, September 07, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	HPCI	Cog Level:	C/A 3.8/3.8
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

69.

Unit 1 was operating at 100% RTP when SRV 1B21-F013A failed open. All attempts to close the valve have failed. Suppression Pool average temperature has reached 125°F.

If Suppression Pool average temperature remains above 125°F for the next 36 hours, which ONE of the following is the highest reactor pressure allowed for the current plant conditions?

(Reference provided)

A. 0 psig

B. 50 psig

C. 100 psig

D. 200 psig

K/A: EA2.03 Ability to determine and/or interpret the following as they apply to SUPPRESSION POOL HIGH WATER TEMPERATURE: Reactor pressure.

Provide Tech Spec 3.6.2.1 Conditions

References: SI-LP-01401, Table 4
Tech Spec 3.6.2.1, Required Action E.1 and E.2

A. Incorrect since pressure could be as high as 100 psig to allow Shutdown Cooling to be in service. Plausible since may think Rx is required to be vented.

B. Incorrect since pressure could be as high as 100 psig to allow Shutdown Cooling to be in service. Plausible since this is the minimum Dp to open relief valve.

C. Correct answer. Mode 4 is required after 36 hours which requires Shutdown Cooling to be in service. Greater than 100 psig closes the Shutdown Cooling suction valves.

D. Incorrect since Shutdown Cooling is required after 36 hours. Plausible since Required Action E.1 requires pressure to be lowered <200 psig within 12 hours of exceeding 125°F.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CCBCDADDCC Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Wednesday, September 07, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	SUPPRESSION CHAMBER	Cog Level:	C/A 3.9/4.0
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

70.

A LOCA has occurred on Unit 2 with the following conditions present:

- Drywell temperature is 350°F
- Torus water level is below 215 inches

The SRO needs to determine if Drywell Sprays can be initiated.

Which ONE of the following Drywell pressures would be acceptable for initiating Drywell sprays?

(Reference provided)

A. 5 psig

B. 15 psig

C. 25 psig

D. 35 psig

K/A: EA2.04 Ability to determine and/or interpret the following as they apply to HIGH DRYWELL TEMPERATURE: Drywell pressure.

Provide reference: Drywell Spray Initiation Limit, Graph 8

References: 31EO-EOP-012-2S
Drywell Spray Initiation Limit, Graph 8 (LR-20306 Figure 4)

A, C and D. Incorrect since these pressures are outside the safe area of the curve with Drywell temperature at 350°F.

B. Correct answer.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BBDABDBCAC Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Thursday, September 08, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	CONTAINMENT	Cog Level:	C/A 4.1/4.2
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

71.

Unit 2 was operating at 100% RTP when SRV 2B21-F013M failed open. All attempts to close the valve failed and the unit was manually tripped. A Small Break LOCA occurred when the reactor was scrammed with Drywell pressure reaching 5.5 psig. The RO noted that the Suppression Chamber air space temperature suddenly increased to approximately Drywell temperature.

Which ONE of the following conditions would account for this temperature increase?

A. SRV 2B21-F013M discharge line vacuum breaker has failed open.

B. One HPCI exhaust vacuum breaker check valve has failed open.

C. One Suppression Chamber - Drywell vacuum breaker has failed open.

D. One Reactor Bldg - Suppression Chamber vacuum breaker has failed open.

K/A: EA2.06 Ability to determine and/or interpret the following as they apply to HIGH DRYWELL TEMPERATURE: Torus/suppression chamber air space temperature.

References: SI-LP-01301, pg. 9 and 10

A. Incorrect since the SRV discharge line vacuum breakers are located in the Drywell.

B. Incorrect since one vacuum breaker failing open should have no affect on Suppression Chamber air space temp since there are two check valves in series.

C. Correct answer. This valve open is a direct path to the Suppression Chamber air space.

D. Incorrect since opening of this vacuum breaker will not equalize temperature between the Drywell and Suppression Chamber.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: CCBABACAAC Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Thursday, September 08, 2005
Revised:

RO Tier:		SRO Tier:	T1/G1
Keyword:	SUPPRESSION CHAMBER	Bkg Level:	C/A 3.4/3.7
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

72.

PC-1, Primary Containment Control, has been entered on Unit 2 for high Suppression Pool temperature. The following conditions are present:

- Suppression Pool level 130 inches
- RPV pressure 600 psig

Which ONE of the following is the highest Suppression Pool temperature **before** action would be required per Curve 3, Heat Capacity Temp Limit?

(Reference provided)

A. 202°F

B. 195°F

C. 189°F

D. 179°F

K/A: EA2.02 Ability to determine and/or interpret the following as they apply to LOW SUPPRESSION POOL WATER LEVEL: Suppression pool temperature.

Provide reference: Curve 3, Heat Capacity Temp Limit

References: PC-1, Primary Containment Control
Heat Capacity Temp Limit, Graph 2

A. Incorrect since this value is above the limit for 600 psig.

B. Incorrect since this value is above the limit for 600 psig.

C. Correct answer

D. Incorrect since this is still within the limit of the 600 psig curve but is not the highest value.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CBDBCCDADD Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Thursday, September 08, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	SUPPRESSION CHAMBER	Bloom Level:	C/A 3.9/3.9
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

73.

Unit 2 Torus water level was approaching 150 inches and you directed the water level to be lowered to 147 inches in preparation for a HPCI quarterly surveillance run.

Which ONE of the following describes the effect of lowering Suppression Pool water level on Drywell-to-Suppression Chamber D/P and any actions required by Tech Specs?

Drywell-to-Suppression Chamber D/P will...

A. decrease and must be increased within 8 hours if value goes below 1.1 psid.

B. decrease and no action is required for 4 hours due to the pending HPCI testing.

C. increase and must be lowered within 8 hours if value goes above 1.6 psid.

D. increase and no actions are required by Tech Specs for the increased D/P.

K/A: EA2.04 Ability to determine and/or interpret the following as they apply to LOW SUPPRESSION POOL WATER LEVEL: Drywell/suppression chamber differential pressure.

References: Tech Spec section 3.6.2.2
34AR-601-902-2 (Tile 601-127)

A. Incorrect since D/P will increase with lowering Torus level. The Tech Spec action is incorrect since water level is within band.

B. Incorrect since D/P will increase with lowering Torus level.

C. Incorrect since there is no Tech Spec action for high Torus to Drywell D/P. Not in the tech spec for high water level.

D. Correct answer.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: DADDCABAAC Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Friday, September 16, 2005
Revised:

RO Tier:		SRO Tier:	T1/G1
Keyword:	CONTAINMENT	Cog Level:	C/A 3.5/3.7
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

74.

Which ONE of the following identifies why reactor power goes down when reactor water level is lowered during an ATWS?

Lowering RPV water level....

A. directly decreases the value of the void coefficient.

B. reduces the natural circulation driving head and core flow.

C. reduces the amount of inventory in the vessel which requires less power to maintain boiling.

D. below the moisture separator removes the flow path thereby minimizing flow through the core.

K/A: EK1.02 Knowledge of the operational implications of the following concepts as they apply to the REACTOR LOW WATER LEVEL and the following: Natural circulation.

References: LR-LP-20327, pg. 9

A. Incorrect since void coefficient will increase.

B. Correct answer.

C. Incorrect since inventory does not affect amount of power required for boiling.

D. Incorrect since level is always below the moisture seperators.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BADCBAADCA Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Thursday, September 08, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	NATURAL CIRCULATION	Bloom Level:	MEM 3.8/4.1
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

75.

Which ONE of the following situations require the NRC to be notified within four (4) hours per 10 CFR 50.72?

A. A reactor startup has just commenced and when the 4th control rod is being withdrawn a reactor scram occurs from Scram Discharge Volume Hi Level.

B. The off-site power supply to 4160 Bus 2E is lost and Diesel Generator 2A starts and energizes Bus 2E.

C. The unit is operating at 50% RTP when a Feedwater Level Control problem results in a reactor scram on low reactor water level (Level 3). Level is restored after reaching -10 inches.

D. During HPCI logic testing with the unit in Mode 1 the system is inadvertently initiated and injects into the vessel prior to being manually tripped by the operator.

K/A: **G2.4.30** Knowledge of which events related to system operations/status should be reported to outside agencies.

References: 10 CFR 50.72

A. Incorrect since the reactor is not critical at this time. This would be an 8 hour report.

B. Incorrect since this meets the 8 hour requirement for a valid start of the DG.

C. Correct answer since the reactor is critical at this time and a valid RPS signal is generated.

D. Incorrect since this is not a valid signal to start the HPCI system.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: CDADDCAAAD Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Thursday, September 08, 2005
Revised:

RO Tier:		SRO Tier:	T1/G1
Keyword:	NOTIFICATIONS	Cog Level:	C/A 2.2/3.6
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

76.

Unit 1 is operating at rated power with HPCI in operation for the Quarterly flow rate surveilance. A small steam leak develops on the steam supply line. The following conditions are present:

- Pump room area temperature 183°F
- Torus area temperature 137°F
- HPCI flow rate 4300 gpm (steady)

Which ONE of the following describes the expected response to these conditions?

The HPCI turbine should ...

A. have tripped with the steam line isolation valves F002 and F003 AND suppression pool suction valves F041 and F042 closing.

B. have tripped with only the steam line isolation valves F002 and F003 closing.

C. not have tripped but the system must be manually isolated by closing the steam line isolation valves F002 and F003.

D. not have tripped and the operator should continue to monitor the system until the surveillance is complete.

K/A: EK2.04 Knowledge of the interrelations between HIGH SECONDARY CONTAINMENT AREA TEMPERATURE and the following: PCIS/NSSSS.

References: SC - Secondary Containment Control
SI-LP-00501-05, pg.26

A. Incorrect since HPCI should not not have tripped under these conditions.

B. Incorrect since HPCI should not not have tripped under these conditions. Also, the torus suction valves would go closed on an isolation signal.

C. Correct answer. SC - Secondary Containment Control requires HPCI to be manually isolated with room temperature >167.5°F.

D. Incorrect since you do not continue the surveilance per guidance of CS - Secondary Containment Control.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CCDBCABADB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

QUESTIONS REPORT

for HatchExam2005-301R1

RO Tier:	T1/G2	SRO Tier:	
Keyword:	SEC CONT	Cog Level:	C/A 3.6/3.8
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

77.

Unit 2 has experienced a LOCA. The Secondary Containment ventilation isolations for high Drywell pressure and low RWL have been overridden when an operator reports that **ALL** the radiation monitors for the Refuel Floor Vent Exhaust are reading 6 mR/hr.

Which ONE of the following actions should be taken for this condition?

A. Confirm/manually isolate the Refuel Floor, Reactor Building and Control room ventilation systems.

B. Continue to use the Reactor Building and Refuel Floor normal ventilation.

C. Confirm/manually isolate the Refuel Floor and Reactor Building ventilation and confirm Unit 1 and 2 SGBT initiation.

D. Confirm/manually isolate the Refuel Floor ventilation and confirm Reactor Building normal ventilation lineup.

K/A: EA1.05 Ability to operate and/or monitor the following as they apply to SECONDARY CONTAINMENT VENTILATION HIGH RADIATION: Fuel building ventilation.

References: SI-LP-01303-01, pg 36-38

A. Incorrect since CREV system does not start from the rad monitor readings.

B. Incorrect since the normal ventilation system will be isolated.

C. Correct answer since the setpoint for unit 2 on some rad monitors is 5.7mR/hr.

D. Incorrect since reactor building ventilation should be isolated.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CCACCCBAAA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Wednesday, September 14, 2005
Revised:

RO Tier:	T1/G2	SRO Tier:	
Keyword:	REFUEL	Cog Level:	C/A 3.8/3.8
Source:	M	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

78.

An ATWS condition exists on Unit 2 and RCA RPV Control (ATWS) has been entered. Direction is given per RC/Q to confirm ARI Initiation.

Which ONE of the following describes the purpose and function of the ARI system?

A. Automatically backs up any scram signal and can manually be initiated from the control room to depressurize the scram air header by venting to the atmosphere.

B. Provides a redundant means to depressurize the scram air header and reposition the Scram Discharge Volume vent and drain valves by energizing the ARI valves.

C. Allows the operator to manually control scram air header pressure opening the backup scram valves by de-energizing their control relays.

D. Provides a redundant means to depressurize the scram air header and reposition the Scram Discharge Volume vent and drain valves by de-energizing the ARI valves.

K/A: G2.1.28 Knowledge of the purpose and function of major system components and controls.

References: SI-LP-00101, pg. 30 thru 34

A. Incorrect since ARI does not automatically back up all RPS signals.

B. Correct answer.

C. Incorrect since initiation of ARI does not control the backup scram valves.

D. Incorrect since the ARI valves are energized to provide their function.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: BBCBDDBCCD Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Thursday, September 08, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	ARI	Cog Level:	MEM 3.2/3.3
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

79.

Which ONE of the following is an action that **must** be performed by the Emergency Director and **CANNOT** be delegated?

A. The decision to request state aid during an emergency.

B. Authorization of 10CFR20 exposure limits to be exceeded by plant personnel.

C. The decision to dismiss non-essential personal from the site during an Unusual Event or higher.

D. Authorization to invoke 10CFR50.54X requirements as necessary.

K/A: EA2.03 Ability to determine and/or interpret the following as they apply to HIGH OFF-SITE RELEASE RATE: Radiation levels.

References: 10AC-MGR-006-0, pg.10
73EP-EIP-004-0, pg.3

A. Incorrect since this decision is for Federal and not State help.

B. Correct answer.

C. Incorrect since this decision can be delegated at the Unusual Event classification.

D. Incorrect since this can be invoked by the SRO in charge of the unit.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BBBDDCDBBD Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:		SRO Tier:	T1/G1
Keyword:	RAD RELEASE	Cog Level:	MEM 3.5/4.3
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

80.

Unit 1 received the following alarms:

"MAIN STEAM LINE RADIATION HIGH"
"O/G AVG ANNUAL REL LIMIT WILL BE EXCEEDED"
"POSTTREAT OFFGAS RADIATION HIGH"
"PRETREATMENT OFFGAS RADIATION HI HI"

Based on these indications, which ONE of the following abnormal procedures should be entered first?

A. 34AB-D11-001, Radioactivity Release Control.

B. 34AB-N62-002, Off Gas Explosion (External to the System).

C✓ 34AB -B21-001, Main Steam Line High Radiation or Suspected Fuel Element Failure.

D. 34AB-N62-001, Failure of Recombiner and Control of Sustained Combustion in the Offgas System.

K/A: G2.4.31 Knowledge of annunciators alarms and indications / and use of the response instructions.

References: 34AB-B21-001
34AB-N62-001
34AB-N62-002

A. Incorrect since the highest priority is the Suspected Fuel Element Failure actions. These require a reactor scram.

B. Incorrect since the highest priority is the Suspected Fuel Element Failure actions. These require a reactor scram.

C. Correct answer.

D. Incorrect since the highest priority is the Suspected Fuel Element Failure actions. These require a reactor scram.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CAADABBDAC Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Wednesday, September 14, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	OFFGAS	Cog Level:	C/A 3.3/3.4
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

81.

Unit 2 just received the following alarm:

- INSTR AIR DRYER MALFUNCTION

Which ONE of the following indications would cause this alarm and what action should be taken if the problem cannot be repaired?

A. Air Dryer Bypass valve 2P52-F007A has opened; shutdown the dryer in accordance with 34SO-P51-002-2, Instrument and Service Air System.

B. The dryer failed to switch towers as required; verify Dryer Bypass valve 2P52-F007A is open and enter 34AB-P51-001-2, Loss of Instrument and Service Air System.

C. The dryer Dew Point has lowered to an unacceptable value; confirm purge pressure is >23 psig and reset alarm.

D. The air dryer combined exit temperature has exceeded the high limit; shutdown the dryer in accordance with 34SO-P51-002-2, Instrument and Service Air System.

K/A: A2.01 Ability to (a) predict the impacts of the following on the INSTRUMENT AIR; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Air dryer and filter malfunctions.

References: 34AR-700-902-2

A. Incorrect since the bypass valve opening does not cause the alarm.

B. Correct answer.

C. Incorrect since the Dew Point alarm is for a high dew point.

D. Incorrect since the high temperature is associated with the tower and not the exit temperature of the air.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BBAABBAACD Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Wednesday, September 14, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	CONTROL AIR	Cog Level:	C/A 2.9/2.8
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

82.

Unit 2 is at rated power when a problem with the Plant Service Water System causes a loss of cooling water to the Stator Water Coolers.

Which ONE of the following describes the expected response of the Main Generator and Stator Water Cooling System?

A. Generator Hydrogen pressure will increase and Stator Water Cooling pressure will automatically increase to stay 3 psig above Hydrogen pressure.

B. The "Generator Protection Circuit Energized" annunciator will be received when generator return water temperature reaches 81°C.

C. The backup Stator Water Cooling Pump will start when Generator return temperature reaches 81°C.

D. The Main Turbine will trip if the Generator fails to run back to 20% of rated Generator load within 3.5 minutes.

K/A: K1.02 Knowledge of the physical connections and/or cause-effect relationships between CCWS and the following: Loads cooled by CCWS.

References: 34AR-651-902-2, tile 651-206

A. Incorrect since stator cooling water pressure does not automatically increase.

B. Incorrect since the 6" valve fails open and the 10" valve fails closed on a loss of air.

C. Incorrect since the pump does not auto start but must be manually started.

D. Incorrect since the runback only has to go to 24%.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BDADCBBABA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 09, 2005
Revised:

RO Tier:	T2/G1	SRO Tier:	
Keyword:	PSW	Cog Level:	C/A 3.2/3.4
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

83.

A fire has been reported in the Unit 2 Cable Spreading Room. 34AB-X43-001-2, Fire Procedure, directs opening links BB-10 in panel 2H11-P927 and BB-10 in panel 2H11-P928 associated with the SRV's.

Which ONE of the following describes the reason for opening these links under these conditions?

A. This prevents all 11 SRV's from simultaneously opening from their electrical setpoint or ADS signal.

B. ✓ This prevents all 11 SRV's from simultaneously opening from their electrical setpoint only.

C. Opening these links prevent spurious opening of the ADS valves only from an ADS signal.

D. Opening these links prevent spurious opening of the ADS valves from an ADS signal or manual actuation signal.

K/A: AK3.04 Knowledge of the reasons for the following responses as they apply to PLANT FIRE ON SITE: Actions contained in the abnormal procedure for plant fire on site.

References: 34AB-X43-001-2, pg. 2

A. Incorrect since the ADS signal will be unaffected.

B. Correct answer.

C. Incorrect since all of the SRV's are affected.

D. Incorrect since all of the SRV's are affected.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BADDCDACBD Scramble Range: A - D

Created: Tuesday, June 15, 2004
Modified: Friday, September 09, 2005
Revised:

RO Tier:	T1/G1	SRO Tier:	
Keyword:	FIRE PROTECTION	Cog Level:	MEM 2.8/3.4
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

84.

You are requested to determine the current status of rod positions using the Safety Parameter Display System (SPDS) 1 minute after a scram signal.

Which ONE of the following indications would be displayed on SPDS if one control rod was stuck at position 24?

Primary display indicates....

A. the word "Scram" in red indication.

B. the words "All Rods In" in yellow indication.

C. the word "Scram" in orange indication.

D. the words "All Rods In" in red indication.

K/A: G2.1.19 Ability to use plant computer to obtain and evaluate parametric information on system or component status.

References: X75-SPDS-LP-05601, pg. 20

A. Correct answer since greater than 10 seconds after scram signal and all rods not inserted.

B. Incorrect since one rod is still not inserted.

C. Incorrect since greater than 10 seconds after scram signal. Would be correct if less than 10 seconds since scram signal.

D. Incorrect since one control rod still out. Plausible since reactor is analyzed with one control rod fully out.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: ABDCAADDAD Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T3	SRO Tier:	
Keyword:	SPDS	Cog Level:	MEM 3.0/3.0
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

85.

Which ONE of the following describes the method used for verifying the position of a locked and throttled valve?

A. Remove the locking device, carefully close the valve counting the number of turns, then reopen the valve the same number of turns. Reapply a locking device to the valve and record the as left position.

B. Place "NA" in the verification signature space for this valve. Locked and/or throttled valves cannot be independently verified without disturbing the position.

C. Since the valve is already locked, the valve may be assumed to be throttled in the correct position. Complete the locking device operability verification.

D. Independent verification of this valve cannot be performed. Second party verification must be performed during initial valve positioning.

K/A: G2.1.23 Ability to perform specific system and integrated plant procedures during different modes of plant operation.

References: 34GO-SUV-001-0, section 7.1.5 and 7.1.6.

A. Incorrect since independent verification cannot be used for this application.

B. Incorrect since you do not N/A a verification step in this case.

C. Correct answer.

D. Incorrect per step 7.1.5 CAUTION.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CDBABADBDA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Thursday, September 08, 2005
Revised:

RO Tier:	T3	SRO Tier:	
Keyword:	VALVE LINEUP	Cog Level:	MEM 3.4/3.3
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

86.

A fire has been reported in the 2A Diesel Generator room. Power has been lost to the CO_2 actuating solenoid(s) and manual initiation of the system is required.

Which ONE of the following actions are required to be performed to initiate CO_2 flow to the affected area?

A. The master valve at the tank and the master valve outside the 2A D/G room must both be manually opened locally at the respective valve.

B. Only the master valve outside the 2A D/G room must be manually opened locally at the valve.

C. The master valve at the tank must be manually opened and the pushbutton outside the 2A D/G room must be pushed.

D. Only the master valve at the tank must be manually opened locally at the valve.

K/A: G2.1.30 Ability to locate and operate components, including local controls.

References: SI-LP-03601, Rev.2, Page 23 and 24
Figure 21

A. Correct answer.

B. Incorrect since both master valves must be opened to initiate flow.

C. Incorrect since power has been lost to the solenoid valves the valves must be operated locally.

D. Incorrect since both valves must be actuated locally to establish flow.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: ABAACBCACA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, June 17, 2005
Revised:

RO Tier:	T3	SRO Tier:	
Keyword:	FIRE PROTECTION	Cog Level:	MEM 3.9/3.4
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

87.

During startup of Unit 1 from a refueling outage the Chemistry Department informs you that Reactor Coolant Conductivity is 0.4 umho/cm and that this exceeds Action Level 1 requirements of >0.3 umho/cm.

Which ONE of the following describes the amount of time allowed to continue operating and who can authorize exceeding this time limit?

A. An orderly shutdown is recommended within the following 6 hours but can be delayed with SOS approval.

B. Operation can continue for a maximum of 24 hours while attempting to reduce conductivity within limits. The Chemistry Supervisor can extend this time limit if needed.

C. Operation can continue for a maximum of 48 hours while attempting to reduce conductivity within limits. The SOS can extend this time limit if needed.

D. Operation can continue for a maximum of 96 hours while attempting to reduce conductivity within limits. The Duty Manager can extend this time limit if needed.

K/A: G2.1.34 Ability to maintain primary and secondary plant chemistry within allowable limits.

References: Technical Requirements Manual section 3.4.1
64CH-SAM-023-0, pg. 3
64CH-SAM-025-0, pg. 26

A. Incorrect since a shutdown is not required for Action Level 1.

B. Incorrect since 24 hours is not correct and the Chemistry Supervisor cannot approve this.

C. Incorrect since 48 hours is not correct and the SOS cannot approve this.

D. Correct answer per 64CH-SAM-023-0.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: DDAAACCACC Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 09, 2005
Revised:

RO Tier:		SRO Tier:	T3
Keyword:	CHEMISTRY	Cog Level:	C/A 2.3/2.9
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

88.

Given the following conditions:

- Unit 1 is in a refuel outage with all fuel removed from the reactor
- Unit 2 is operating at power

Which one of the following is correct concerning staffing requirements per 30AC-OPS-003-0, Plant Operations?

A. Shift Manager is not required during this condition.

B. Two SRO licensed individuals are required to be onsite.

C. Shift Technical Adviser is not required during this condition.

D. Three Unit Operators are required, two for Unit 2 and one for Unit 1.

K/A: G2.1.4 Knowledge of shift staffing requirements.

References: 30AC-OPS-003-0, pg. 10 - 13
Tech Spec section 5.2, Unit Staff
10 CFR 50.54 Table

A. Incorrect since the Shift Manager is required on site at all times per Tech Specs.

B. Correct answer.

C. Incorrect since STA is required with a unit in Mode 1, 2 or 3.

D. Incorrect per procedure. It doesn't designate the positions for each unit.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: BDBACADCBD Scramble Range: A - D
Created: Wednesday, June 16, 2004
Modified: Thursday, September 08, 2005
Revised:

RO Tier:		SRO Tier:	T3
Keyword:	SHIFT STAFFING	Cog Level:	MEM 2.3/3.4
Source:	B	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

89.

Which ONE of the following describes a condition when it would be acceptable to **VOID** a Temporary Modification?

The temporary modification has been...

A. installed but not tested and accepted by Operations.

B. approved but not yet installed in the plant.

C. installed, tested and accepted by Operations. The temporary modification has not exceeded the expected removal date.

D. installed, tested and accepted by Operations. The temporary modification has exceeded the expected removal date.

K/A: G2.2.11 Knowledge of the process for controlling temporary alterations.

References: 40AC-ENG-018-0, step 8.6, pg. 6

A. Incorrect since the temp mod has been installed in the plant.

B. Correct answer.

C. Incorrect since the temp mod has been installed in the plant.

D. Incorrect since the temp mod has been installed in the plant.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BCBCDAACBD Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Thursday, September 08, 2005
Revised:

RO Tier:	T3	SRO Tier:	
Keyword:	TEMPORARY ALTERATION	Cog Level:	MEM 2.5/3.4
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

90.

Which ONE of the following individuals is authorized to approve maintenance activities without a Maintenance Work Order (MWO)?

A. Nuclear Plant General Manager.

B. Site Vice President.

C. Work Control SRO.

D. Plant Maintenance Manager.

K/A: G2.2.19 Knowledge of maintenance work order requirements.

References: 50AC-MNT-001-0, pg. 21

A. Correct answer. He is one of the individuals acceptable to authorize emergency work.

B, C and D. Incorrect since these individuals are not authorized to approve emergency work without an MWO.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: AACCCABBBB Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:		SRO Tier:	T3
Keyword:	WORK CONTROL	Cog Level:	C/A 2.1/3.1
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

91.

Which ONE of the following describes the basis for the Minimum Critical Power Ratio (MCPR) Safety Limit?

A. ✔ This limit ensures that more than 99.9% of the fuel rods in the core are expected to avoid transition boiling.

B. This limit ensures that fuel damage will not result in the release of radioactive materials in excess of the guidelines of 10 CFR, Parts 20, 50, and 100.

C. The MCPR safety limit ensures that the 1% limit on the fuel cladding plastic strain is not exceeded during all postulated operational transients.

D. Maintaining the safety limit above the MCPR limit ensures that cladding temperatures stay below that which is required for a zirconium-water reaction for all fuel rods.

K/A: G2.2.25 Knowledge of bases in technical specifications for limiting conditions for operations and safety.

References: TS Bases Section 2.0
TS Bases Section 3.2

A. Correct answer.

B. Incorrect since this is the basis for the LHGR limits.

C. Incorrect since this is the basis for the APLHGR limits.

D. Incorrect since this is not true for all fuel rods. It could be true for 99.9% of the fuel rods.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: ADDABBBBCB Scramble Range: A - D
Created: Wednesday, June 16, 2004
Modified: Thursday, September 08, 2005
Revised:

RO Tier:		SRO Tier:	T3
Keyword:	TS BASES	Cog Level:	MEM 2.5/3.7
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

92.

While moving an irradiated fuel bundle from the East Fuel Prep Machine, the bundle drops and bubbles are observed rising from the bundle. ARMs alarm throughout the Refuel Floor.

DETERMINE which ONE of the following actions listed below is an immediate operator action.

A. Request assistance from Health Physics Department.

B. Evacuate all personnel from the Reactor Building.

C. Lower the Fuel Prep machine to the full down position and attempt to place the bundle back in the machine.

D. Evacuate personnel from the Refuel Floor.

K/A: G2.2.27 Knowledge of the refueling process.

References: 34AB-J11-001-2

A. Incorrect since this is a subsequent action.

B. Incorrect since the Refuel Floor must be evacuated and not the Reactor Building.

C. Incorrect since the bundle should not be placed back into the machine at this time.

D. Correct answer.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: DDDABCDCCC Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 09, 2005
Revised:

RO Tier:	T3	SRO Tier:	
Keyword:	REFUEL	Cog Level:	MEM 2.6/3.5
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

93.

Which ONE of the following scram signals has a different initiation setpoint for both units?

A. Drywell High Pressure.

B. Reactor Vessel High Pressure.

C. Reactor Vessel Low Water Level.

D. Scram Discharge Volume High Water Level.

K/A: G2.2.3 Knowledge of the design/procedural/and operational differences between units.

References: C71-RPS-LP-01001, pg.46 - 50

A. Incorrect since both units have same setpoint.

B. Incorrect since both units have same setpoint.

C. Incorrect since both units have same setpoint.

D. Correct answer. Unit 1 is 63 gallons and Unit 2 is 57 gallons.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: DCADBBCCDC Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 09, 2005
Revised:

RO Tier:	T3	SRO Tier:	
Keyword:	RPS	Cog Level:	MEM 3.1/3.3
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

94.

A Systems Operator is being sent out on a job in a High Radiation Area. The Dose rate in the area of the job is 280 mRem/hr. The job is expected to take 45 minutes. The operator's actual exposure history to date for the year is 1800 mRem TEDE.

Which ONE of the following correctly indicates if the individual can perform the job and the reason why?

A. Yes, the operator will not exceed his administrative or federal dose limits.

B. Yes, the operator will have to have an approved extension on dose limits after returning from the job.

C. No, the operator will exceed his federal dose limits.

D. No, the operator will exceed administrative dose limits which are not allowed to be extended without proper prior approval.

K/A: G2.3.4 Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized.

References: 60AC-HPX-001-0, pg.6

A. Incorrect since administrative limits of 2000 mR/hr will be exceeded. 1800 mR plus 210 mR from the job = 2100 mR exposure.

B. Incorrect since approval to exceed the administrative limits must be authorized prior to receiving the dose.

C. Incorrect since federal limits will not be exceeded. Annual limit of 5 Rem.

D. Correct answer.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: DCCCDBBCAB Scramble Range: A - D
Created: Wednesday, June 16, 2004
Modified: Wednesday, September 14, 2005
Revised:

RO Tier:	T3	SRO Tier:	
Keyword:	EMERGENCY DOSE	Cog Level:	C/A 2.5/3.1
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

95.

It has been determined that the condensate phase seperators should be decanted directly to the main condenser for Unit 2 in accordance with 34SO-G11-023-2, Radwaste Phase Seperator Operating Procedure. All prerequisites have been met to perform the valve lineup.

Which ONE of the following indicates the correct approval requirements for this evolution?

A. Chemistry approval is required.

B. Shift Manager approval is required.

C✓ Shift Supervisor approval is required.

D. Plant Manager approval is required.

K/A: G2.3.6 Knowledge of the requirements for reviewing and approving release permits.

References: 34SO-G11-023-2, pg. 26

A. Incorrect since Chemistry has already sampled the phase seperators prior to this point.

B. Incorrect since this is occuring on Unit 2 and the Shift Supervisor is able to approve this evolution.

C. Correct answer.

D. Incorrect since the Plant Manager approval is not required.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CDACCCCCCA Scramble Range: A - D
Created: Wednesday, June 16, 2004
Modified: Wednesday, September 14, 2005
Revised:

RO Tier:		SRO Tier:	T3
Keyword:	RADWASTE	Cog Level:	C/A 2.1/3.1
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

96.

Unit 2 is commencing a scheduled reactor shutdown due to a leak in the Drywell. The Shift Supervisor has directed that the Drywell and Torus be de-inerted so that an entry team can inspect the Drywell prior to cold shutdown. The unit is currently at 20% power.

Which ONE of the following describes the process for purging the containment to allow the team to enter the Drywell at the earliest possible time?

A. Immediately begin purging the Drywell to obtain 19.5% Oxygen followed by purging the Torus to obtain 19.5% Oxygen.

B. Immediately begin purging the Drywell and the Torus concurrently to obtain 19.5% Oxygen.

C. When the unit is <15% power then commence purging the Drywell to obtain 19.5% Oxygen followed by purging the Torus to obtain 19.5% Oxygen.

D. When the unit is <15% power then commence purging the Drywell and the Torus concurrently to obtain 19.5% Oxygen.

K/A: G2.3.9 Knowledge of the process for performing a containment purge.

References: 34SO-T48-002-2, pg.17

A. Correct answer.

B. Incorrect since cannot purge the Drywell and Torus concurrently when in Mode 1,2 or 3.

C. Incorrect since you don't have to wait until 15% power to start de-inerting. Since the shutdown is scheduled then you can begin 24 hours prior to reaching 15%.

D. Incorrect since you don't have to wait until 15% power to start de-inerting and you can't purge the Drywell and Torus concurrently when in mode 1,2 or 3.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: ABCACBCCCD Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 23, 2005
Revised:

RO Tier:	T3	SRO Tier:	
Keyword:	CONTAINMENT	Cog Level:	C/A 2.5/3.4
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

97.

Unit 2 is operating at 100% power.

Which ONE of the following is the reason for entering RC[A] point A if drywell temperature cannot be maintained below 340°F per PC-1, Primary Containment Control?

A. To prevent exceeding the design temperature of the drywell structure.

B. To prevent exceeding the maximum normal operating temperature of the drywell with the reactor at power.

C. To ensure the reactor is shutdown by control rod insertion should emergency depressurization be required.

D. To ensure drywell temperature remains below the design temperature of the environmentally qualified drywell components.

K/A: G2.4.1 Knowledge of EOP entry conditions and immediate action steps.

References: LR-LP-20310-07, pg. 59

A, B and D are incorrect but are all plausible since they are related to containment temperature.

C. Correct answer.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: CABDDBDDBD Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 09, 2005
Revised:

RO Tier:	T3	SRO Tier:	
Keyword:	EOI	Cog Level:	MEM 4.3/4.6
Source:	B	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

98.

Unit 1 is operating at 100% RTP when you note that the HPCI turbine is coming up to rated speed and the valves are repositioning for injection. Plant conditions are as follows:

- Reactor water level +37 inches controlled by Feedwater
- Drywell Pressure +1.9 psig

Which ONE of the following indicates the **immediate** action(s) that should be taken per 34AB-E10-001-1, Inadvertent Initiation of ECCS/RCIC?

A. Confirm initiation signal is not valid and shutdown HPCI per applicable operating procedure.

B✔ Confirm initiation signal is valid and verify proper system operation per applicable operating procedure.

C. Inhibit ADS using ADS Auto Logic Inhibit Switches 1B21-S7A AND 1B21-S7B on 1H11-P602.

D. Trip HPCI and place the Aux Oil Pump in Pull-to-Lock.

K/A: G2.4.11 Knowledge of abnormal condition procedures.

References: 34AB-E10-001, pg 1 and 2

A. Incorrect since initiation signal is valid.

B. Correct answer.

C. Incorrect since this is a Subsequent Action at Shift Supervisors discretion.

D. Incorrect since this is not an action in the procedure but could be directed if the initiation signal was not valid.

MCS Time: 1 Points: 1.00 Version: 0123456789
Answer: BCCDABBABC Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 09, 2005
Revised:

RO Tier:	T3	SRO Tier:	
Keyword:	HPCI	Cog Level:	C/A 3.4/3.6
Source:	N	Exam:	HT05301
Test:	R	Author/Reviewer:	TCK

99.

Which ONE of the following procedures, if entered, will **NOT** be superseded by the EOP's if an EOP entry condition is received?

A. 34AB-R22-003, Station Blackout.

B. 34AB-E11-001, Loss of Shutdown Cooling.

C. 34AB-C71-001, Scram Procedure.

D. 31RS-OPS-001, Shutdown from Outside Control Room.

K/A: G2.4.5 Knowledge of the organization of the operating procedures network for normal / abnormal / and emergency evolutions.

References: 31RS-OPS-001
34GO-OPS-181-2S, Step 7.1.4

A, B, and C. Incorrect since the only procedure that will not be superseded by an EOP entry condition is Shutdown from Outside Control Room.

D. Correct answer. This procedure addresses conditions to bring the unit to cold shutdown.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: DCCBBBDCAA Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 09, 2005
Revised:

RO Tier:	T3	SRO Tier:	
Keyword:	PROCEDURES	Cog Level:	MEM 2.9/3.6
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK

100.

During implementation of the EOP's, conditions change such that the answer to a previous **Decision Step** has changed. Re-addressing the **Decision Step** would result in different actions which would improve the condition of the plant. The conditions that changed do not result in a new entry condition to the EOP's.

Which ONE of the following actions should be taken to address this situation?

A. Continue on in the EOP's and do **NOT** go back to complete the decision step.

B. Go back and re-address the decision step and then continue on in the EOP's.

C. Re-enter the applicable EOP at the beginning to ensure plant conditions are acceptable and perform the decision step at the appropriate point.

D. Continue on in the EOP's until you get to a Wait Until step, at which time you should go back and re-address the decision step prior to continuing on in the EOP's.

K/A: G2.4.6 Knowledge of symptom based EOP mitigation strategies.

References: LR-LP-20307-04, pg.5

A. Correct answer.

B. Incorrect since you only re-address the Decision Step if you re-enter the EOP.

C. Incorrect since you do not go back and re-enter the EOI at the beginning unless there is a new entry condition.

D. Incorrect since you do not go back to the Decision Step after you reach a Wait Until step.

MCS Time: 1 Points: 1.00 Version: 0 1 2 3 4 5 6 7 8 9
Answer: ACCABBADDD Scramble Range: A - D

Created: Wednesday, June 16, 2004
Modified: Friday, September 09, 2005
Revised:

RO Tier:		SRO Tier:	T3
Keyword:	EOP	Cog Level:	MEM 3.1/4.0
Source:	N	Exam:	HT05301
Test:	S	Author/Reviewer:	TCK