Clinton Power Station
2001 ILT Exam

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

Applicant Information	
Name:	Region: **III**
Date: **7/23/01**	Facility/Unit: **CLINTON**
License Level: **SRO**	Reactor Type: **GE**
Start Time:	Finish Time:

A. Instructions

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

Applicant Certification

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

B. Applicant's Signature C

Results

Examination Value	_____	Points
Applicant's Score	_____	Points
Applicant's Grade	_____	Percent

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **1**	**BOTH**	**201003**	**K5.01**

The plant has been at End-Of-Cycle coastdown and 96% power when a scram occurred. The inlet scram valve for rod 28-41 failed to open

Which of the following describes rod 28-41's final position following the scram?

Control rod 28-41 will be _____ inserted due to the _____ pressure on the bottom of the CRD piston.

A.	partially;	cooling water supply
B.	partially;	reactor
C.	fully;	cooling water supply
D.	fully;	reactor

Explanation:
A & C Cooling water flow will be zero until scram is reset
B With reactor pressure > 600 psig there is enough differential pressure to drive the rod completely in even though the scram inlet valve fails to open.

Answer	Reference:	Question Pedigree:
D	LP85201-03	New
Objective:	Cognitive Level:	Difficulty:
LP85201 .1.1.14	**2**	**3.3**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **2**	**BOTH**	**204000**	**K5.07**

The plant is operating near rated conditions.

Annunciator 5000-1C, F-D INLET TEMP HI 140°F, came in and has been in one minute.

Under these conditions what is the preferred method of verifying reactor coolant conductivity is maintained within specification of ORM 2.3.1, Reactor Coolant System Chemistry?

A. RT Outlet Continuous Conductivity Recorder on P678.

B. RT Inlet Continuous Conductivity Recorder on P678.

C. RR Continuous Conductivity Recorder on P678.

D. Chemistry must obtain samples and analyze.

Explanation:
When the annunciator came in RT isolated. In accordance with CPS 3303.01 RR Continuous Conductivity Monitor would act as backup.

Answer	Reference:	Question Pedigree:
C	CPS 3303.01 Rev. 23a Limitation 6.2	**New**
Objective:	Cognitive Level:	Difficulty:
LP85204 .1.2	**2**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **3**	**BOTH**	**205000**	**K1.02**

When placing RHR Loop B in SDC, CPS 3312.03 RHR – SHUTDOWN COOLING (SDC) & FUEL POOL COOLING ASSIST (FPC&A) has the 1E12-F064B, RHR Pump 1B Minimum Flow Valve, shut/verified shut and the breaker turned off.

What is the reason for performing this action?

A. To ensure that an inadvertent loss of RPV level does not occur.

B. To prevent hydraulic instability with potential for increased pump wear.

C. To minimize the possibility of thermal binding of 1E12-F064B.

D. To ensure the discharge piping does not drain down if 1E12-F064B is opened.

Explanation:
Step 8.1.2.16 of CPS 3312.03 supports answer A. B would be true if the valve were opened for a long period of time. C would be true if the valve was opened and then closed with temperatures >200°F. D is not true because 1E12-F064B is upstream of the discharge check valve and the discharge check valve will prevent drain down even if 1E12-F064B is open.

Answer	Reference:	Question Pedigree:
A	CPS 3312.03 Rev. 3c	New
Objective:	Cognitive Level:	Difficulty:
LP85205 .1.5.13	**1**	**2.8**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **4**	**BOTH**	**205000**	**K3.01**

- Shutdown Cooling is in service with RHR B loop.
- Reactor Pressure is 102 psig and stable.
- WS is supplying the cooling water.
- The B RHR heat exchanger service water outlet valve 1E12-F068B fails closed.

Which annunciator would be the first indication of the problem:

A. RHR PUMP B DISCHARGE PRESS ABNORMAL

B. RHR HX A/B INLET TEMP HIGH

C. RHR PUMP B AUTO TRIP

D. SHUTDOWN HEADER PRESSURE HIGH

Explanation:
Isolation of SX flow to B RHR Heat Exchanger will cause reactor coolant temperature to rise and thus reactor pressure to rise. When reactor pressure rises to 104 psig. The shutdown cooling suction valves will close initiating the RHR B Pump trip logic and annunciator.

Answer	Reference:	Question Pedigree:
C	CPS 5065.03 Rev. 33	**New**
Objective:	Cognitive Level:	Difficulty:
LP85205 .1.5.1	**2**	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **5**	**SRO**	**209002**	**2.4.49**

The following conditions exist:

- Mode Switch in Shutdown
- Reactor Power = 10%
- Reactor Water Level = 40 inches and raising at 1 inch/minute.
- Drywell pressure = 0.75 psig and stable

Which of the following actions should the operator be directed to perform and why?

A. Close HPCS discharge valve; prevent cold unborated water from causing power spikes.

B. Initiate HPCS while holding discharge valve control switch in 'Close'; prevent high water level from causing turbine trip.

C. Close HPCS discharge valve; prevent high water level from causing turbine trip.

D. Initiate HPCS while holding discharge valve control switch in 'Close'; prevent cold unborated water from causing power spikes.

Explanation: There is no HPCS initiation signal present at this time and in accordance with CPS 4411.02 under these conditions to prevent HPCS initiation

- While holding control switch in CLOSE for 1E22-F004, HPCS To CNMT Outbd Isln Valve:
- Arm and Depress HPCS MANUAL INITIATION push-button.

This is performed to prevent cold unborated water from causing power spikes.

Answer	Reference:	Question Pedigree:
D	EOP Tech Bases	**New**
Objective:	Cognitive Level:	Difficulty:
LP87553 .1.13.1	**2**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **6**	**SRO**	**211000**	**2.1.32**

Technical Specification 3.7.1, "Standby Liquid Control" requires the temperature of the sodium pentaborate solution be maintained above a certain temperature. The basis for this requirement is to maintain:
A. accurate level indication by preventing significant changes in water density.
B. accurate level indication by preventing sodium pentaborate precipitate in the level indication tube.
C. system operability by preventing pump seal damage from cold pump starts.
D. system operability by preventing sodium pentaborate precipitate from forming in the suction piping.

Explanation: Technical Specification SR 3.1.7.2 requires verification of the sodium pentaborate solution. The bases associated with SR 3.1.7.2 discusses verifying borated solution temperature thereby ensuring SLC system operability.

Answer	Reference:	Question Pedigree:
D	T. S. SR 3.1.7.2 Bases	**New**
Objective:	Cognitive Level:	Difficulty:
LP85211 .1.6.2	**1**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **7**	**BOTH**	**211000**	**2.1.33**

Which of the following sets of conditions meets the requirements for OPERABILITY of the Standby Liquid Control System in Mode 2? Provide Tech Spec 3.1.7

	Tank Level	Tank Solution	
		Concentration	Temperature
A.	3600	13.5%	65°F
B.	4000	12.0%	75°F
C.	3500	13.5%	82°F
D.	3825	12.7%	76°F

Explanation:
A – Temperature is below the minimum 70°F temperature.
B – Concentration is just below minimum concentration line.
C – Tank volume is below the low level alarm.

Answer	Reference:	Question Pedigree:
D	Tech Spec 3.1.7, CPS 9000.01	**CPS Bank Question #18273**
Objective:	Cognitive Level:	Difficulty:
LP87622 1.6.9, .1.6.10	**2**	**3.3**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **8**	**BOTH**	**212000**	**A3.05**

- Unit has been in mode 3 for two days
- Reactor pressure is stable at 100 psig

A leaky scram outlet valve has resulted in the following alarms

5006-1D SDV NOT DRAINED

5004-2A DIV 1 OR 4 SDV HI WTR TRIP

5005-2A DIV 2 OR 3 SDV HI WTR TRIP

Based upon the above alarms, which of the following describes the status of the following annunciators?

	5006-2H ROD OUT BLOCK	5004-3L SCRAM PLT VLV AIR HDR PRESS LO
A.	Cleared	Cleared
B.	Alarmed	Alarmed
C.	Cleared	Alarmed
D.	Alarmed	Cleared

Explanation: ROD OUT BLOCK would already be in solid in mode 3. The SCRAM PILOT VALVE AIR will depressurize when the full scram is received.

Answer	Reference:	Question Pedigree:
B	CPS 5004.03 Rev. 26 CPS 5006.02 Rev. 26	**New**
Objective:	Cognitive Level:	Difficulty:
LP85201 .1.1.4	**2**	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **9**	**BOTH**	**215003**	**A1.03**

Given the following plant conditions:

- Reactor Startup is in progress.
- IRM channels are on Range 1 indicating between 25 and 75.
- SRM Channel 'A' is bypassed awaiting maintenance.

Which of the following statements correctly describes the response if the **IRM Channel "A"** high voltage power supply de-energized?

A. There will be NO protective response because the companion SRM for IRM 'A' is bypassed.

B. There will be a control rod withdrawal block ONLY since IRM 'A' inputs to RPS are bypassed.

C. There will be a RPS channel 'A' trip ONLY since IRM range 1 bypasses the control rod withdrawal block.

D. There will be BOTH a RPS channel 'A' trip and control rod withdrawal block.

Explanation:

Answer
The IRM Hi Voltage power supply failure is an inop trip. This produces a rod block and scram signal which are only bypassed with the Sensor bypass switch in bypass.

Distractors
Additional bypass conditions for scram and rod block are suggested. While IRM range 1 bypasses downscale rod block it doesn't bypass inop trips.

Answer	Reference:	Question Pedigree:
D	LP87409-01	**Question from Hope Creek**
Objective:	Cognitive Level:	Difficulty:
.1.3.1 & .1.3.2	**2**	**3.3**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **10**	**BOTH**	**215003**	**K2.01**

The IRM equipment drawers are powered from:
A. DC MCCs 1A, 1B, 1C, and 1D
B. Aux Bldg MCCs 1A1, 1B1, 1C1, 1D1
C. Division 1, 2, 3, and 4 NSPS busses
D. Unit Subs 1A, 1B, 1C, and 1D

Explanation: Neutron monitoring is powered from the NSPS busses.

Answer	Reference:	Question Pedigree:
C	LP87409-01	CPS Exam Bank Question #7747
Objective:	Cognitive Level:	Difficulty:
LP87409 .1.6	**1**	**3.8**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **11**	**BOTH**	**215004**	**A4.03**

Which of the following represents the SRM count rate indication displayed on DCS?
A. Only the highest reading SRM
B. Highest of A or C and B or D
C. Highest of A or B and C or D
D. All four are displayed

Explanation:
All four SRMs are displayed on DCS.

Answer	Reference:	Question Pedigree:
D	LP87215-01	**New**
Objective:	Cognitive Level:	Difficulty:
LP87215 .1.3.2	**1**	**2.8**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **12**	**BOTH**	**215004**	**K1.01**

Which set of conditions within the Source Range Monitoring system, would generate a Reactor Protection system scram signal?	
A. Shorting links REMOVED	upscale trip in 1 channel
B. Shorting links REMOVED	short period trip in 2 channels
C. Shorting links INSTALLED	upscale trip in 2 channels
D. Shorting links INSTALLED	short period trip in 1 channel

Explanation: With the shorting links removed RPS is placed in non-coincidence logic and any 1 SRM upscale trip or INOP signal will initiate a full scram.

Answer	Reference:	Question Pedigree:
A	LP87215-01	**CPS Exam Bank Question #3530 Modified**
Objective:	Cognitive Level:	Difficulty:
LP87215 .1.3.4	**2**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **13**	**BOTH**	**215005**	**K3.08**

How would a LPRM Failure Downscale affect core thermal power limits?
A. Conservative; Indicated power would lower, moving the plant further from the thermal limits.
B. Non-Conservative; Indicated power would rise, moving the plant closer to the thermal limits.
C. Conservative, Indicated power would rise, creating the possibility that a core thermal limit may be exceeded when it really isn't.
D. Non-Conservative; Indicated power would lower, creating the possibility of a core thermal limit being exceeded without detection.

Explanation: A downscale LPRM will cause indicated power to be less than actual power. A thermal limit could then be exceeded with out being detected.

Answer	Reference:	Question Pedigree:
D	LP87411-01	**New**
Objective:	Cognitive Level:	Difficulty:
LP87411 .1.6.3	**1**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **14**	**BOTH**	**216000**	**K1.21**

One of the Wide Range Reactor Pressure Vessel Instruments that inputs to SPDS has failed. How would SPDS indicate this failure?
A. Bar graph will turn white and associated number will turn inverse (reverse video) white.
B. Bar graph will turn white and associated number will turn inverse (reverse video) red.
C. Bar graph will turn red and associated number will turn inverse (reverse video) white.
D. Bar graph will turn red and associated number will turn inverse (reverse video) red.

Explanation:
When there are two or more sensors for a parameter and the readings do not agree the parameter is displayed in white on the SPDS display and the number turns inverse white.

Answer	Reference:	Question Pedigree:
A	LP87283-01	**New**
Objective:	Cognitive Level:	Difficulty:
LP87283 .1.7.1	**1**	**2.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **15**	**BOTH**	**216000**	**K3.10**

The following conditions exist:

- The plant is operating at 60% power.
- RPV level is 35" and stable on 3 Element Feed Water Level Control.
- B TDRFP has been removed from service.
- Narrow Range Level Transmitter 'A' is selected for input to the Feed Water Level Control system.

An electronic failure causes the 'A' level channel to instantaneously track 6 inches less than actual level.

Which of the following is the first expected plant response?

A. The A TDRFP will lock up due to a control signal failure.

B. A Level 3 scram will occur.

C. The Reactor Recirc system will run back.

D. The Reactor Recirc pumps will trip to off.

Explanation: A RR runback is initiated by RPV level < lvl 4 on the selected level channel and less than 2 TDRFPs running.

Question was validated on the simulator to ensure correct answer was "C".

Answer	Reference:	Question Pedigree:
C	CPS 3302.01 Rev. 25a	**New**
Objective:	Cognitive Level:	Difficulty:
LP87402-01 . 1.4.1	**1**	**3.75**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **16**	**BOTH**	**218000**	**K5.01**

A plant transient is in progress with current plant conditions as follows:

- Drywell Pressure is 3.6 psig and rising at 0.2 psi/min.
- Reactor Level is –35" and lowering at 1.5 in./min.
- Reactor Pressure is 810 psig and lowering at 10 psi/min.
- HPCS Pump is OOS
- All other ECCS systems have performed as expected.

ADS will initiate immediately after:

A. Level 1 is reached.

B. Level 1 is reached and the 105 second timer times out.

C. Top of Active Fuel (TAF) is reached.

D. Top of Active Fuel (TAF) is reached and the 105 second timer times out.

Explanation: ADS initiation requires a high drywell pressure, a low pressure ECCS pump running, a level 1 and the 105 sec timer timed out.

Answer	Reference:	Question Pedigree:
B	LP87218-01	**New**
Objective:	Cognitive Level:	Difficulty:
LP87218 .1.11.2	**2**	**2.3**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **17**	**SRO**	**219000**	**2.4.45**

- A transient has occurred
- "B" RHR is in Suppression Pool Cooling

The following annunciators have been received:

- RHR HX B OUTLET CONDUCTIVITY HIGH
- SX SERVICE WATER EFFLUENT B – 1RIX-PR039 –HIGH ALARM

Which of these annunciators should receive the highest priority and why?

A. RHR HX B OUTLET CONDUCTIVITY HIGH; indicates fuel damage

B. RHR HX B OUTLET CONDUCTIVITY HIGH; indicates radiation release

C. SX SERVICE WATER EFFLUENT B – 1RIX-PR039; indicates fuel damage

D. SX SERVICE WATER EFFLUENT B – 1RIX-PR039; indicates radiation release

Explanation:
Incorrect
A. & B. Alarm is expected anytime Suppression Pool Cooling is in service
C. Alarm would not be expected unless there is a RHR H/X tube leak.
Correct
D. Alarm would be high priority and would be indicative of a radiation release due to a RHR H/X tube leak.

Answer	Reference:	Question Pedigree:
D	CPS 4979.05 Rev. 7	**New**
Objective:	Cognitive Level:	Difficulty:
	2	**2.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **18**	**BOTH**	**223001**	**K2.09**

- Unit was at rated conditions
- All four DW Cooling System fans were running to facilitate a swap of chillers.
- The normal feed breaker to 4160V 1A1 bus tripped.
- DG restored power to 4160V 1A1 bus as designed.

Assuming no operator actions:

which of the following describes the DW Cooling Fans status following the transient?

DW Cooling Fan	A	B	C	D
A.	Tripped	Tripped	Tripped	Tripped
B.	Tripped	Running	Tripped	Running
C.	Tripped	Running	Running	Tripped
D.	Running	Running	Running	Running

Explanation:

A & C are powered from Division 1
B & D are powered from Division 2

A & C tripped on undervoltage when power was lost and do not restart when power is restored.
B & D remained running

Answer	Reference:	Question Pedigree:
B	LP85222-02, CPS 3320.01 Rev. 11b	**New**
Objective:	Cognitive Level:	Difficulty:
	2	**4.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **19**	**BOTH**	**223001**	**K5.10**

A LOCA has occurred, current plant conditions are as follows:

- Containment Pressure is 10 psig.
- Containment Hydrogen Concentration is 8.3%

Which of the following actions would be required under these conditions?

A. Start the Hydrogen Igniters.

B. Start the Mixing Compressors.

C. Start the Hydrogen Recombiners.

D. Vent and Purge the Containment.

Explanation:
A – Igniters are required to be prevented from restarting if not already on.
B – Mixers are required to be stopped if igniters are not on and conditions are greater than figure R.
C – Recombiners are required to be stopped if hydrogen is greater than 5%.

Answer	Reference:	Question Pedigree:
D	EOP Tech Bases	**New**
Objective:	Cognitive Level:	Difficulty:
LP87600 .1.3.3	**1**	**3.25**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **20**	**BOTH**	**223002**	**A3.03**

A plant transient has occurred. The following containment isolation groups have received a valid isolation signal and the applicable valves have responded as indicated:

Group 5	All valves have shut.
Group 4	All valves have shut except 1G33-F053, RWCU Disch Inbd Isol, which indicates intermediate.

How will the above conditions be displayed on DCS?

A. A green '5' only.

B. A red inverse (reverse video) '4' only

C. A green '5' and a red inverse (reverse video) '4'

D. A green '5' and a green '4'.

Explanation:
DCS shows only isolation group numbers that have all their isolation valves fully shut, so only the "5" would be displayed.

Answer	Reference:	Question Pedigree:
A	LP87407-01 & CPS 3512.01 Rev.9	**New**
Objective:	Cognitive Level:	Difficulty:
LP87407 .1.2.1	**1**	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **21**	**BOTH**	**223002**	**K4.01**

Which of the following describes CRVICS design features utilized at CPS to ensure redundancy? To ensure closure of penetrations that have two:
A. MOVs in series, each will have two power supplies.
B. AOVs in series, each will share two accumulators.
C. MOVs in series, each will have a different power supply.
D. AOVs in series, each has two accumulators.

Explanation:
A – Each MOV only has one power supply.
B – Each AOV has an accumulator but does not share.
C – Correct answer each will have a different power supply to ensure that if one power supply is lost the other power supply will allow closure of one of the valves and isolation of the line.
D – AOVs only have one accumulator each.

Answer	Reference:	Question Pedigree:
C	LP87407-01	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**2.8**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **22**	**BOTH**	**226001**	**K2.02**

A loss of Off Site Power has occurred:

- Division I Diesel Generator could NOT be started.
- Division II Diesel Generator auto started and loaded.
- Division III Diesel Generator auto started and loaded.

At this time, with no operator action, the pump(s) available for **Containment Spray** is/are:

A. RHR Pump A

B. RHR Pump B

C. RHR Pumps A & B

D. RHR Pumps B & C

Explanation:

A & D RHR Pump "A" does not have power.
C RHR B & C have power but only B supplies containment spray.

Answer	Reference:	Question Pedigree:
B	LP85205-05	**Dresden 2000 NRC Exam, Modified**
Objective:	Cognitive Level:	Difficulty:
LP85205 .1.3.4	**2**	**2.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **23**	**BOTH**	**239001**	**K3.08**

The plant has experienced a complete loss of Instrument Air, due to an unisolable rupture in the Turbine Building. Which of the following is the preferred method of decay heat removal?
A. Turbine Bypass Valves
B. Reactor Feed Pump Turbine
C. Steam Jet Air Ejectors
D. Reactor Core Isolation Cooling

Explanation:
A, B, & C Loss of Instrument Air shuts the MSIVs preventing the use of any of these methods.

Answer	Reference:	Question Pedigree:
D	LP85239-05	**New**
Objective:	Cognitive Level:	Difficulty:
LP85239 .1.8.2	**2**	**2.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **24**	**BOTH**	**239002**	**A1.04**

A Group I Isolation occurred at 25% power. SRVs opened to control a reactor pressure spike and subsequently reclosed. Maximum reactor pressure was 1110 psig. At what pressure will the next Safety-Relief Valve open and why?
A. 1033 psig; to prevent reaching the high pressure scram setpoint.
B. 1033 psig; to minimize cycling of the other SRVs.
C. 1103 psig; to prevent reaching the high pressure scram setpoint.
D. 1103 psig; to minimize cycling of the other SRVs.

Explanation:
When SRVs are actuated due to high pressure the Low-Low Set relief function is actuated. This resets the reopen pressure to a lower value. The close pressure of the lowest valve is 926#. The lowest pressure that a valve reopens is 1033#. The reason this is done is to reduce the number of SRVs cycling for a given condition.

Answer	Reference:	Question Pedigree:
B	LP85239-05	**New**
Objective:	Cognitive Level:	Difficulty:
LP85239 .1.6.2	**2**	**3.3**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **25**	**BOTH**	**239002**	**K6.04**

DC MCC 1A power is lost to the SRVs.

Which of the following functions are still available for SRV F051G?

	LLS	Relief	Manually Open from H13-P601
A.	X	X	
B.		X	X
C.	X		X
D.	X	X	X

Explanation: LLS and Relief modes energize both solenoids (Div 1 & 2). The manual switches on 1H13-P601 energize only the Div 1 solenoids

Answer	Reference:	Question Pedigree:
A	LP85239-05	**New**
Objective:	Cognitive Level:	Difficulty:
LP85239 .1.10.1	**2**	**2.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **26**	**BOTH**	**239003**	**K6.01**

What is the potential impact of a loss of AC power to the pipe heater on its respective MSIV Leakage Control System inboard subsystem?
A. Subsystem air blower capacity would rise.
B. Condensate formed by vapor leakage would not be evaporated, creating a water seal on the process line.
C. The in-service Drywell Purge Filter Train charcoal filter's efficiency would lower.
D. The in-service Standby Gas Treatment Train charcoal filter's efficiency would rise.

Explanation:
A .Moisture would decrease the blower capacity.
C. Drywell Purge Filter Trains are not used with MSIV leakage control.
D. Moisture would decrease the charcoal efficiency

Answer	Reference:	Question Pedigree:
B	LP85431-01	**CPS EB #12564**
Objective:	Cognitive Level:	Difficulty:
LP85431 .1.6.2	**1**	**2.8**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **27**	**SRO**	**261000**	**2.4.10**

Current plant conditions are:

LOCA signal Fuel Building Rad present >10mr.

'B' Reactor Operator reports that both VG trains are running.

A train flow is 4800 scfm.

B train flow is 3800 scfm.

Which of the following describes the direction that should be given to the ROs?

A. Secure train A only.

B. Secure train B only.

C. Leave both trains running.

D. Secure both trains and restart VF.

Explanation:
A train flow is excessive. Rad is >10 mr so VF cannot be restarted.

Answer	Reference:	Question Pedigree:
A	5050.03 Rev. 30a	**New**
Objective:	Cognitive Level:	Difficulty:
LP85261 .1.9.1 & .1.10.1	**2**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **28**	**BOTH**	**241000**	**A2.05**

Current plant conditions are as follows:

- Reactor Power 30% power.
- CPS 9031.06 MAIN TURBINE STOP VALVE AND COMBINED INTERMEDIATE VALVE TESTS is in progress.

When the first Main Stop Valve is tested, ALL MAIN STOP VALVES FAIL SHUT.

What is the initial expected plant response, and operator actions?

A. The Bypass Valves will control pressure; enter Loss of Feedwater Heating.

B. The Bypass Valves will control pressure; enter Reactor Scram.

C. The Bypass Valves will NOT control pressure; enter Loss of Feedwater Heating.

D. The Bypass Valves will NOT control pressure; enter Reactor Scram.

Explanation: The scram is bypassed at <40% power, the bypass valves can pass ~35% steam flow and the loss of turbine steam flow will couse a loss of feedwater heating.

Answer	Reference:	Question Pedigree:
A	5007-01 Rev 25, LP85239-05	**New**
Objective:	Cognitive Level:	Difficulty:
LP85239 .1.4.1	**2**	**3.3**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **29**	**SRO**	**259001**	**2.1.32**

- Unit is Shutdown.
- Shutdown Cooling is in service.
- Reactor Pressure is 52 psig and stable.
- Main Steam lines are isolated.

Which of the following describes the expected position of the 1B21-F065A & B, Feedwater Shutoff Valve, and the USAR basis for their position?

A. Open; to reduce thermal cycling of the feedwater nozzles.

B. Open; to provide a Shutdown Cooling path to the vessel.

C. Closed; to prevent damage to the inboard Feedwater Check Valves.

D. Closed; to provide long term leakage protection.

Explanation:
A. Feedwater makeup is not needed.
B. Shutdown cooling returns downstream of the F065s
C. Shutdown cooling flow is sufficient to prevent check valve damage.

Answer	Reference:	Question Pedigree:
D	USAR 6.2.4.3.2.1.1.1, LP85259-06	**New**
Objective:	Cognitive Level:	Difficulty:
LP85259 .1.15	**2**	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **30**	**BOTH**	**261000**	**K6.09**

A LOCA has occurred. Drywell pressure is 4.4 psig and rising at + 0.1 psig/10 min. Containment pressure is 2.8 psig and rising at + 0.05 psig/20 min.

With respect to containment purge, SGTS train 'A' is:

A. Available; currently running due to high drywell pressure but must be manually aligned to containment purge by opening the SGTS Train 'A' Drywell Purge Inlet Damper (1VG01YA).

B. Available; currently in standby but the SGTS, Exhaust Fan 'A' (0VG02CA) must be manually started and aligned to containment purge by opening the SGTS Train 'A' Drywell Purge Inlet Damper (1VG01YA).

C. Unavailable, currently running due to high drywell pressure, but the SGTS Train 'A' Drywell Purge Inlet Damper (1VG01YA) isolated on high containment pressure.

D. Unavailable, the SGTS, Exhaust Fan 'A' (0VG02CA) trips on high containment pressure.

Explanation: 1VG01YA isolates at 2.56 psid containment pressure.

Answer	Reference:	Question Pedigree:
C	LP85455-02	**New**
Objective:	Cognitive Level:	Difficulty:
LP85455 .1.5.1	**2**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **31**	**BOTH**	**262002**	**A3.01**

Annunciator 5012-5A, TROUBLE COMPUTER UPS 1A is received in the Main Control Room due to an inverter failure. Which of the following indicates that the transfer to the alternate source was unsuccessful?
A. Main Turbine Trips
B. Reactor Recirc Flow Control Valves runback
C. MSIV Position Indication is lost
D. SDV Vent & Drain Valve Position Indication is lost

Explanation:
A. Main Turbine trips are powered from UPS 1B
C. MSIV Indication is powered from NSPS
D. SDV Vent & Drain Valve position is powered from NSPS

Answer	Reference:	Question Pedigree:
B	CPS 3509.01 Appendix A, B, C, & D Rev. 14	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**4.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **32**	**BOTH**	**264000**	**A2.09**

- Unit at rated conditions
- Surveillance CPS 9080.02, DG 1C OPERABILITY – MANUAL AND QUICK START OPERABILITY being performed.
- Parallel with O/S power source (RAT)

RAT breaker trips due to faulty trip coil.

Which of the following 1) identifies expected response; 2) is the required actions per CPS 9080.02, DG 1C OPERABILITY – MANUAL AND QUICK START OPERABILITY?

A. Offsite power source will auto transfer; DG output breaker will trip; reset the speed droop to zero.

B. DG will remain on bus; push off-site source permissive button.

C. ERAT Breaker will close and DG will remain in parallel; adjust frequency and voltage.

D. DG will remain on bus; reset speed droop to zero and adjust frequency and voltage.

Explanation:

Answer	Reference:	Question Pedigree:
D	CPS 9080.02 Rev. 44e	**New**
Objective:	Cognitive Level:	Difficulty:
	2	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **33**	**SRO**	**233000**	**2.4.11**

- Plant is in Mode 5.
- Reactor Cavity Pool Level is normal.
- FC is supplying Upper and Lower Fuel Pools .
- Lake temperature is 54°F and stable.
- Fuel Pool Cooling (FC) is being cooled by Shutdown Service Water (SX) using 'A' FC Heat Exchanger.
- Spent Fuel Pool temperature is 72°F as indicated on MCR recorder and dropping at 4°F/hr.
- Manually throttling Fuel Pool HX 1A Outlet Valve (1SX062A) does NOT have any affect.

Is operator action required to allow continued operation of the FC system?

If Yes, what action would be required? If No, why not?

A. No; there is no FC low temperature limit.

B. No; lake temperature is above the low FC temperature limit.

C. Yes; slowly isolate flow to 'A' FC heat exchanger.

D. Yes; route partial flow through 'B' FC heat exchanger.

Explanation:
Flow is routed through the out-of-service heat exchanger MCR recorder lower limit is 70°F. Values less than or equal to 70° must be determined locally.

Answer	Reference:	Question Pedigree:
D	CPS 3317.01, 8.2.2 Rev. 20d	**New**
Objective:	Cognitive Level:	Difficulty:
LP86233 .1.6.12	**2**	**4.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **34**	**BOTH**	**268000**	**A2.01**

A rupture has occurred on the Main EHC system on the supply line to the Turbine Stop Valve #3.

Which collection tank would be impacted if oil were to drain to Radwaste, and what actions should be taken to mitigate the consequences?

A. WF Collection Tank; prevent the oil from entering the floor drains.

B. WE Collection Tank; prevent the oil from entering the floor drains.

C. WF Collection Tank; direct the oil to the closest floor drain.

D. WE Collection Tank; direct the oil to the closest floor drain.

Explanation:

B. & D. Oil would flow to floor drains which would flow to the WF Collection Tanks not the WE Collection Tanks

C. Need to prevent the oil from getting into the floor drains.

WF Floor Drains
WE Equipment Drains

Answer	Reference:	Question Pedigree:
A	CPS 3105.04 Rev. 7a	**New**
Objective:	Cognitive Level:	Difficulty:
LP85248 .1.6	**2**	**3.7**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **35**	**BOTH**	**271000**	**A2.07**

Which of the following indicates an ALERT alarm on 1RIX-PR039 'B' SX Effluent PRM? Channel value backlit:
A. Red
B. Yellow
C. White
D. Gray

Explanation:
Red Hi Alarm
Yellow Alert
White Trouble/Status
Gray Normal

Answer	Reference:	Question Pedigree:
B	5140.51 Rev. 0, LP85273-02	**New**
Objective:	Cognitive Level:	Difficulty:
LP85273 .1.11.7	**1**	**3.3**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **36**	**BOTH**	**286000**	**A4.04**

Which of the following would be the first indication of a degrading fire protection jockey pump?
A. Fire header pressure indication on 1H13-P840 panel would lower.
B. 1H13-P841 (XL3) panel alarm for Low Fire Protection System Pressure.
C. Automatic start of diesel fire pump 'A' (0FP01PA).
D. Automatic start of horizontal fire pump (0FP03P).

Explanation:
A. Fire header pressure is not indicated on 1H13-P840.
B. Low Fire Protection system pressure is not alarmed.
D. The horizontal Fire Pump does not auto start.

Answer	Reference:	Question Pedigree:
C	CPS 3213.02M001 Rev. 1	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**2.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **37**	**BOTH**	**286000**	**K4.07**

Which of the following describes the expected response to a decreasing oil pressure condition of a running Diesel Fire Pump?
A. Alarm locally and in the MCR; pump trip.
B. Alarm locally and in the MCR; run until failure.
C. Alarm locally only; pump trip.
D. Alarm locally only; run until failure.

Explanation:
A, B, & C - 'Low Lube Oil Pressure' does not stop the Diesel Fire Pump engine. It sounds a local 'Engine Failure' alarm and is annunciated in the Main Control Room.

Answer	Reference:	Question Pedigree:
B	LP85286-03	**New**
Objective:	Cognitive Level:	Difficulty:
LP85286 .1.5.4	**1**	**2.6**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **38**	**BOTH**	**290001**	**A1.01**

- Fuel building pressure is minus 0.25 inwc
- SBGT is in standby
- An operator has been assigned to start fuel building HVAC.

The operator correctly aligned the dampers and started the first fan. Which of the following describes the response of fuel building and running fan if no additional operator action is taken?

Fuel building pressure will _____(1)_____ until the running fan trips at _____(2)_____.

	(1)	(2)
A.	Rise	+ 1.0 inwc
B.	Rise	0.0 inwc
C.	Lower	-0.75 inwc
D.	Lower	-1.75 inwc

Explanation:
The exhaust fan is always started first. Without a supply fan running, pressure will decrease until fan trips at –1.75 inwc.

Answer	Reference:	Question Pedigree:
D	LP85449-01	**New**
Objective:	Cognitive Level:	Difficulty:
1.6.4	**2**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **39**	**BOTH**	**290001**	**K4.02**

Fuel Building Exhaust fan 1A (1VF04CA) trips due to motor fault, what prevents excessive building pressure?
A. Fuel Building Supply Fan 1A (1VF03CA) trips immediately
B. Fuel Building Supply Fan 1A (1VF03CA) trips on high building pressure
C. Exhaust Flow Control Damper (1VF11YA) opens immediately.
D. Exhaust Flow Control Damper (1VF11YA) opens on high building pressure.

Explanation:
The Supply Fan does not trip if the Exhaust Fan trips, instead it will cause pressure in the building to rise until the Supply Fan trips on high building pressure.

Answer	Reference:	Question Pedigree:
B	LP85449-01	**New**
Objective:	Cognitive Level:	Difficulty:
LP85449 .1.4.1	**1**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **40**	**BOTH**	**290003**	**K6.01**

Main Control Room Ventilation (VC) Train "A" was running in the NORMAL mode when Offsite Power was temporarily lost to the Division I 4160 kV bus 1A1. Vital bus power was promptly restored by the Emergency Diesel Generators.

Which of the following describes the Control Room HVAC system response to the Loss of Power?

A. Train 'A' will automatically re-start in the NORMAL mode.

B. Train 'B' will automatically start in the NORMAL mode.

C. Train 'B' will automatically start immediately and Train "A" will automatically start when Bus 1A1 is re-energized.

D. Neither train will automatically start. The operator will have to manually start a VC train.

Explanation:
VC does not have an auto start.

Answer	Reference:	Question Pedigree:
D	LP85447-03	**CPS Exam Bank Question #7191**
Objective:	Cognitive Level:	Difficulty:
	1	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **41**	**SRO**	**294001**	**2.1.4**

The plant is at rated conditions.

Which of the following describes the minimum Tech Spec manning requirements for the position listed?

A. One Chemistry Technician present on site.

B. One Radiation Protection Technician present on site.

C. Two Reactor Operators present in the Main Control Room.

D. Two Non-Licensed Operators present in the Power Block.

Explanation:
A. Chemistry Technician not required
C. Only one Reactor Operator required in the Control Room
D. Non-Licensed Operators are required to be on-site.

Answer	Reference:	Question Pedigree:
B	Tech. Spec. Section 5.2.2	**New**
Objective:	Cognitive Level:	Difficulty:
LP87592 .1.1	**1**	**2.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **42**	**BOTH**	**294001**	**2.1.8**

Performance of 9813.01, Control Rod Scram Timing, requires:
A. Notification and written approval of the RO "at the controls".
B. Written approval of the Control Room Supervisor and notification of the RO "at the controls".
C. Written approval of the Work Coordination Supervisor and notification of the RO "at the controls".
D. Notification and written approval of the Work Week Manager.

Explanation:
CRS approval and RO notification is required.

Answer	Reference:	Question Pedigree:
B	CPS 1001.05 Rev. 8	**CPS Exam Bank Question #3764 Modified**
Objective:	Cognitive Level:	Difficulty:
	1	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **43**	**BOTH**	**294001**	**2.1.14**

What is the minimum required power change within 1 hour requiring Chemistry notification?
A. 5%
B. 10%
C. 15%
D. 20%

Explanation:
When power is changed by more than 15% in 1 hour, notify Chemistry to perform applicable sections of CPS 9940.01, Weekly Chemistry Surveillance Log.

Answer	Reference:	Question Pedigree:
C	CPS 3005.01 Rev. 23a CPS 3006.01 Rev. 29	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**2.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **44**	**SRO**	**294001**	**2.1.22**

- Reactor water level is minus 15 inches and lowering at 1 inch per minute.
- Immediate operator actions for scram have been performed.
- Reactor Power is 30%.

What mode is the plant in and what procedure would mitigate the severity of the transient?

A. Mode 1, EOP1, RPV Level Control

B. Mode 1, EOP1A, ATWS RPV Control

C. Mode 3, EOP1, RPV Level Control

D. Mode 3, EOP1A, ATWS RPV Control

Explanation:
Immediate operator actions for scram require mode switch to be placed in Shutdown.
Mode 3 Mode Switch in Shutdown and Temperature greater than 200°F
EOP-1A Scram required and reactor power greater than 5% and Shutdown criteria not met.

Answer	Reference:	Question Pedigree:
D	CPS 4100.01 Rev. 17 T.S. Definitions 1.1	**New**
Objective:	Cognitive Level:	Difficulty:
LP87553 .1.1 LP87620 .1.2	**2**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **45**	**SRO**	**294001**	**2.2.5**

Which of the following procedure changes requires a 50.59 evaluation?
A. Correcting step numbers in a procedure note.
B. Adding a new valve stroke time to check.
C. Adding a drawing or figure for clarification.
D. Correcting organizational titles.

Explanation:
A, C, & D are administrative changes.

Answer	Reference:	Question Pedigree:
B	CPS 1005.06 F001 Rev. 4	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**2.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **46**	**SRO**	**294001**	**2.2.25**

During certain conditions, RTP is required to be less than 25%.

1) What are the conditions when this limit is applicable and, 2) what is the basis for the limit?

A. 1) Reactor pressure < 785 psig OR < 10% core flow;
   2) Full scale ATLAS test data indicates that damage would not occur unless thermal power was > 50% RTP for these conditions.

B. 1) Reactor pressure < 785 psig AND < 10% core flow
   2) Full scale ATLAS test data indicates that damage would not occur unless thermal power was > 50% RTP for these conditions.

C. 1) Reactor pressure < 785 psig OR < 10% core flow;
   2) GE critical power correlations indicate that onset of transition boiling would not occur unless thermal power was > 50% RTP for these conditions.

D. 1) Reactor pressure < 785 psig AND < 10% core flow
   2) GE critical power correlations indicate that onset of transition boiling would not occur unless thermal power was > 50% RTP for these conditions.

Explanation:

1) T.S. 2.1.1.1 states "with reactor steam domw pressure < 785 psig or core flow < 10% rated core THERMAL POWER shall be ≤ 25% RTP."
2) T.S. 2.1.1.1. bases states "For operation at low pressures or low flows the full scale ATLAS test is used."

Answer	Reference:	Question Pedigree:
A	TS 2.1.1 and bases	**New**
Objective:	Cognitive Level:	Difficulty:
LP87621 .3.1	**2**	**4.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **47**	**BOTH**	**294001**	**2.2.28**

- Plans are underway to withdraw the rod with the highest reactivity worth for SDM verification.
- Personnel are working on the bridge above the core.

Which of the following describes the lowest permissible water level to permit the personnel to continue work on the bridge during the rod withdrawal?

A. Above the main steam lines

B. At the RPV flange

C. 22 ft. 8 in. above the RPV flange

D. 23 ft. above the RPV flange

Explanation:
In accordance with CPS 3703.01 Precaution 4.15 "Whenever a control rod surrounded by fuel is being withdrawn , all personnel shall be at least out of line-of-sight of the core unless: Reactor Cavity is flooded to 22' 8" above the RPV flange.

Answer	Reference:	Question Pedigree:
C	CPS 3703.01 Rev.22b	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **48**	**SRO**	**294001**	**2.3.1**

Given that a 22 year old operator is working in a radiation field under the following conditions:

- The operator's cumulative dose for the year is 940 mrem.
- Job is in a 20 mrem/hr radiation area
- No dose extension has been authorized.

Select the number of hours the operator may work in the radiation area without exceeding the administrative limit for the year?

A. 3

B. 28

C. 53

D. 103

Explanation:
Administrative limit is 2000 mrem/yr. This leaves the operator with 1060 mrem available,
1060mrem / 20mrem/hr = 53 hrs.

Answer	Reference:	Question Pedigree:
C	1024.15 Rev. 14	**CPS Exam Database Question #6984 Modified**
Objective:	Cognitive Level:	Difficulty:
LP85757 .1.14	**2**	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **49**	**BOTH**	**294001**	**2.3.2**

An operator has a clearance that requires second or independent verification.

For which of the following conditions can the Tagging Authority waive independent verification?

A. A Danger tag to be hung on the 1E12-F006B shutdown cooling suction valve handwheel

B. A Danger tag to be hung on the 1CP-MV1A condensate polisher A inlet valve control switch at 1PL03J, TB 712'.

C. A Special Condition tag to be hung on the 1CO01T CO2 compressor disconnect switch

D. A Special Condition tag to be hung on the breaker for 1WS002A at Screenhouse MCC 1A.

Explanation:
The Tagging Authority may waive verification requirements when verification may incur radiation exposure in excess of 10 mRem.

Answer	Reference:	Question Pedigree:
A	1014.01, 8.5.3 Rev. 31a	**NEW**
Objective:	Cognitive Level:	Difficulty:
	2	**2.8**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **50**	**SRO**	**294001**	**2.3.9**

In accordance with the Caution in the EOP Support Procedure, what is the maximum area temperature at which SGTS may be used in Containment Purge mode to avoid igniting the charcoal bed?
A. 451°F
B. 330°F
C. 212°F
D. 140°F

Explanation:
Caution in CPS 4411.06 states "Do not use SGTS if evacuated area is >212°F due to potential to ignite the charcoal beds.

Answer	Reference:	Question Pedigree:
C	4411.06 section 2.8 Rev. 4	**CPS Exam Bank Question #4151 Modified**
Objective:	Cognitive Level:	Difficulty:
LP87558.1.3.6	**1**	**2.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **51**	**BOTH**	**294001**	**2.3.10**

Annunciator 5050-7M HI RADIATION CONT RM HVAC SYS DIV 1 has alarmed.

Associated monitors are reading.

PR009A	10mR/hr
PR009B	11 mR/hr
PR009C	5 mR/hr
PR009D	3 mR/hr

From the information listed above, and the attached page from CPS 3402.01 determine the correct lineup the minimum air dampers should be placed in.

A. 0VC01YA open; 0VC01YB closed

B. 0VC01YA open; 0VC01YB open

C. 0VC01YA closed; 0VC01YB open

D. 0VC01YA closed; 0VC01YB closed

Explanation:
In accordance with CPS 3402.01, the minimum air damper with the lowest radiation level should be the damper that is opened.

Answer	Reference:	Question Pedigree:
A	3402.01 section 8.3.3.7 and 8 Rev. 18c	**New**
Objective:	Cognitive Level:	Difficulty:
LP85447 .1.4.1	**2**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **52**	**BOTH**	**294001**	**2.4.12**

Identify the lowest emergency classification for which OSC personnel are to automatically report to the OSC.
A. Unusual Event
B. Alert
C. Site Area Emergency
D. General Emergency

Explanation:
In accordance with the E-Plan section 3.1.3.2, "The OSC shall be activated and staffed in a timely manner for an ALERT, SITE AREA EMERGENCY, and GENERAL EMERGENCY.

Answer	Reference:	Question Pedigree:
B	E-Plan section 3.1.3.2	**CPS Exam Bank Question #9079**
Objective:	Cognitive Level:	Difficulty:
LP87536 .1.4.1	**1**	**2.8**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **53**	**BOTH**	**294001**	**2.4.25**

What is the position of the following valves when Fire Protection is being used as an alternate source of injection into the RPV?

1SX014B, PSW To SSW 1B Hdr Isol Vlv

1E12-F003B, RHR B Hx Outlet Valve

	1SX014B	1E12-F003B
A.	Open	Open
B.	Open	Closed
C.	Closed	Open
D.	Closed	Closed

Explanation:
1SX014B is open to allow flow from Plant Service Water to Shutdown Service Water.
1E12-F003B is closed to prevent water from backflowing through the valve to the suppression pool.

Answer	Reference:	Question Pedigree:
B	4411.03 Appendix B, Rev. 6	**New**
Objective:	Cognitive Level:	Difficulty:
LP87552 .1.10	**1**	**4.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **54**	**SRO**	**294001**	**2.4.36**

A plant transient has occurred. The following conditions exist:

- RPV level is –55" wide range and lowering at 1"/min.
- HPCS failed to start.
- RPV pressure is being maintained 800-1065 psig with Bypass Valves.
- Drywell pressure is 2.13 psig and rising at 1 psig/5 min.
- Containment pressure is 0.1 psig and stable.
- Immediate actions for Scram Off-Normal are complete.

Which of the following tasks should chemistry be directed to perform?

A. Obtain reactor coolant sample at Reactor Sample Station, 1G33-Z020.

B. Obtain reactor coolant sample at PASS panel 1PS02J/3J.

C. Obtain Drywell atmosphere sample at 1RIX-PR023, Drywell CAM, sample point.

D. Obtain Drywell hydrogen sample at PASS panel, 1PS02J/3J.

Explanation:
Incorrect
A. & C. Containment is evacuated.
D. DW hydrogen is not sampled @ PASS panel and H2O2 monitors should be available.
Correct
B. Scram/Unit Shutdown requires a coolant sample.

Answer	Reference:	Question Pedigree:
B	3006.01 Rev. 29	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**4.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **55**	**BOTH**	**295002**	**AK2.07**

What is the operational impact of high condensate system temperature on the off-gas system?
A. Rising recombiner condenser drain flow.
B. Intercondenser chugging and loss of condenser vacuum.
C. Rising intercondenser drain flow.
D. Recombiner condenser chugging and loss of condenser vacuum.

Explanation:
High condensate system temperature can cause unstable steam condensation in the SJAE intercondenser. This phenomen is known as chugging. SJAE chugging can cause a loss of the intercondenser loop seal, resulting in a loss of main condenser vacuum.

Answer	Reference:	Question Pedigree:
B	LP85271-02	**CPS Exam Bank Question #7417 Modified**
Objective:	Cognitive Level:	Difficulty:
LP87271 .1.6.21	**1**	**2.8**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **56**	**BOTH**	**295003**	**AA2.04**

A Station Blackout has occurred.

Division I Diesel Generator is ready to be started to re-energize a dead ECCS bus.

Which of the following describes the actions that would be taken before starting the Division I DG and the reason for those actions?

A. Secure the RCIC Gland Seal Compressor; ensures adequate field flashing current is available to the DG when it is started.

B. Secure the RCIC Gland Seal Compressor; prevents the compressor from being load shed after the DG is started.

C. Secure the Emergency Bearing Oil Pump; reduces starting load on the DG, which could cause the DG to trip on undervoltage.

D. Secure the Emergency Bearing Oil Pump; to prevent it from shunt tripping due to low voltage when the DG is started.

Explanation:
In accordance with CPS 4200.01 “For DG 1A start during a SBO: Stop the RCIC Gland Seal Air Compressor to ensure sufficient DG 1A field flashing current on the DG 1A start sequence.

Answer	Reference:	Question Pedigree:
A	CPS 4200.01 4.2.4	**CPS Exam Bank Question #8382 modified.**
Objective:	Cognitive Level:	Difficulty:
LP87513 .1.2.4	**2**	**2.8**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **57**	**BOTH**	**295003**	**AK3.02**

An exciter fault occurs on "A" Circ Water Pump causing an overcurrent condition. What would be the expected response and why?
A. The "A" Circ Water Pump Breaker Trips; to isolate the fault to prevent a loss of non-vital AC power.
B. The 6.9 Kv bus 1A locks out; to isolate the fault to prevent a loss of non-vital AC power.
C. The "A" Circ Water Pump Breaker Trips; to isolate the fault to prevent a loss of vital AC power.
D. The 6.9 Kv bus 1A locks out; to isolate the fault to prevent a loss of vital AC power.

Explanation:
B. Selective tripping will cause the "A" Circ Water Pump to trip before the 6.9 Kv bus locks out.
C. & D. "A" Circ Water Pump & 6.9 Kv bus are non-vital.

Answer	Reference:	Question Pedigree:
A	LP85738	**New**
Objective:	Cognitive Level:	Difficulty:
LP85738 .1.7	**2**	**2.3**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **58**	**BOTH**	**295004**	**AK1.04**

A plant transient has caused DC MCC 1E to be supplied only from its battery. Which of the following actions will NOT reduce battery discharge rate?
A. Transfer UPS Bus 1A to its alternate source.
B. Secure the running Emergency Bearing Oil Pump.
C. Place the Battery Charger 1E switch in equalize.
D. Crosstie DC Distribution Panel 1E with 1F supplying power.

Explanation:
C This is a function of the battery charger and does not impact the battery because it is isolated from the charger.

Answer	Reference:	Question Pedigree:
C	CPS 3503.01 Rev 14	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**2.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **59**	**BOTH**	**295006**	**AK3.01**

Which of the following describes the initial reactor water level response to a manual scram from rated conditions, and the reason? Indicated reactor water level will . . .
A. lower due to the collapsing voids in the core region.
B. lower due to the water discharge to the Scram Discharge Volume.
C. raise due to the lowering steam flow from the vessel.
D. raise due to the water displaced by the inserting control rods.

Explanation:

B Water discharged to scram discharge volume comes mainly from the hydraulic control units and is insignificant in volume compared the level reduction in the vessel.

C & D Level would initially lower due to voids collapsing.

Answer	Reference:	Question Pedigree:
A	LP87512-03	**New**
Objective:	Cognitive Level:	Difficulty:
LP87512 .1.4.1	**2**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **60**	**BOTH**	**295007**	**AK1.01**

Which of the following describes the highest pressure where both LPCI and LPCS injection flow is expected following auto initiation?
A. 510 psig.
B. 410 psig
C. 310 psig.
D. 210 psig.

Explanation:
A, B, & C - LPCI flow begins at 225 psid vessel pressure above drywell pressure.

Answer	Reference:	Question Pedigree:
D	LP85205-05	**New**
Objective:	Cognitive Level:	Difficulty:
	2	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **61**	**BOTH**	**295007**	**AK3.03**

The plant was operating at 100% power when a Group 1 isolation occurred. Along with SRVs, which of the following is the preferred method of decay heat removal and why?
A. HPCS. This minimizes SRV operation.
B. HPCS. This minimizes moisture carryover.
C. RCIC. This minimizes SRV operation.
D. RCIC. This minimizes moisture carryover.

Explanation:
In accordance with CPS 4100.01 RCIC is a major heat removal source and if it is preferred to keep RCIC running. By running RCIC it will act as pressure control to minimize the SRV lifting.

Answer	Reference:	Question Pedigree:
C	CPS 4100.01 Rev. 17	**New**
Objective:	Cognitive Level:	Difficulty:
LP85217 .1.1	**2**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **62**	**SRO**	**295008**	**2.1.14**

You are the Control Room Supervisor

- Reactor water level transient caused level to spike to 53 inches and then stabilize at 36 inches.
- No automatic action occurred.

What procedure would be required to be entered for these conditions and who would have to be notified?

A. CPS 4100.01, Reactor Scram; All onsite personnel via plant announcement.

B. CPS 3103.01, Feedwater; All onsite personnel via plant announcement.

C. CPS 4100.01, Reactor Scram; Plant Management only.

D. CPS 3103.01, Feedwater; Plant Management only.

Explanation:
Under these conditions a Reactor Scram should have occurred. Entry into CPS 4100.01 would be required. Annunciator CPS 5062-2D, REACTOR VESSEL WATER HIGH LEVEL 8 would have been received which directs the operator into CPS 4100.01, Reactor Scram.

Answer	Reference:	Question Pedigree:
A	CPS 4100.01 Rev. 17 CPS 1401.07 Rev. 1	**New**
Objective:	Cognitive Level:	Difficulty:
LP87512 .1.1	**2**	**4.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **63**	**BOTH**	**295008**	**AK3.07**

HPCS is injecting to the reactor when level rises to 55 inches.

Which of the following is the effect on HPCS and the reason why?

A. HPCS pump will trip to prevent overpressurizing the reactor vessel.

B. HPCS Pump will trip to prevent overflow into the steam lines.

C. HPCS injection valve will shut to prevent overpressurizing the reactor vessel.

D. HPCS Injection valve will shut to prevent overflow into the steam lines.

Explanation:
A Level 8 signal is reached at 52 inches. In accordance with the Technical Specification bases the Level 8 signal is used to close the HPCS injection valve to prevent overflow into the main steam lines.

Answer	Reference:	Question Pedigree:
D	Tech Spec 3.3.5.1 bases LP85380-02	**New**
Objective:	Cognitive Level:	Difficulty:
LP85380 .1.2.5	**2**	**2.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **64**	**BOTH**	**295009**	**AK2.02**

- The plant was at 100% rated power.
- Feedwater Master Level Controller was in AUTOMATIC three element control with the tapeset at 35 inches.

Which of the following describes the Feedwater Level Control system response to a valid Level 3 signal?

The Feedwater Level control system:

A. will attempt to maintain level at 35 inches as set in by the tapeset on the Master Level Controller.

B. will automatically shift to the Startup Level Controller and will attempt to maintain level at 18 inches.

C. level DEMAND will rise initially and then lower after 10 seconds to a demand signal at 25 inches.

D. level DEMAND will rise initially and then lower after 10 seconds to a demand signal at 18 inches.

Explanation:
FWLC is programmed to offset the initial shrink from the scram and then prevent a high level by changing its setpoint to a final value of 18 inches.

Answer	Reference:	Question Pedigree:
D	LP87570-01	**CPS Exam Bank Question #3619 modified**
Objective:	Cognitive Level:	Difficulty:
LP87570 .1.7.1	**1**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **65**	**SRO**	**295011**	**2.4.11**

A Station Blackout has occurred. How do you monitor containment temperature?
A. DC powered temperature indication on Remote Shutdown Panel
B. UPS powered recorders on P601
C. UPS powered DCS displays
D. IMs using RTD bridges

Explanation:
A., B., & C. Power will not be available to read these temperatures.

Answer	Reference:	Question Pedigree:
D	4200.01 Rev. 14	**New**
Objective:	Cognitive Level:	Difficulty:
LP87513 .1.6	**1**	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **66**	**BOTH**	**295012**	**AA1.01**

A plant transient has created the following conditions:

- Drywell Pressure 1.97 psig
- Drywell Temperature 156°F
- A loss of all Drywell Cooling

Which of the following should be used to re-establish Drywell Cooling?

A. VP if interlocks are defeated.

B. VP if the shunt trips are reset.

C. VP & WO if interlocks are defeated.

D. VP & WO if interlocks are defeated and shunt trips reset.

Explanation:
D The VP & WO Interlocks need to be defeated as spelled out in EOP-6, the shunt trips need to be reset due to the high Drywell Pressure.

Answer	Reference:	Question Pedigree:
D	CPS 4410.00C006 Rev. 5	**New**
Objective:	Cognitive Level:	Difficulty:
	2	**2.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **67**	**SRO**	**295005**	**AA2.04**

From 100% power, a scram generated by Scram Discharge Volume High Water Level results in the following:

- Control rods DO NOT insert fully
- Reactor power 100%
- MSIVs remain open; Main Turbine remains on line with a Steam Bypass and Pressure Control setpoint of 944 psig.

Before any operator action is taken, a malfunction of the feedwater system results in RPV level rising to 54 inches.

For the given sequence of events, the Main Turbine will…

A. Remain on line, and reactor pressure will stabilize at approximately 945 psig.

B. Remain on line, and reactor pressure will stabilize at approximately 963 psig.

C. Trip; bypass valves will open fully, and reactor pressure will rise until SRV(s) open.

D. Trip; bypass valves will open, and reactor pressure will stabilize at approximately 963 psig.

Explanation:
The Main Turbine will trip at 52 inches RPV level and power will remain above the bypass valve capacity causing pressure to rise to the SRV setpoints.

Answer	Reference:	Question Pedigree:
C	LP85245-01 LP87241-01 LP85239-05	**CPS Exam Bank Question #20982**
Objective:	Cognitive Level:	Difficulty:
LP87241 .1.5.4 LP85245 .1.25	**2**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **68**	**SRO**	**295014**	**AA2.02**

A RX startup is in progress with the following conditions:

- Below the point of adding heat
- No rod motion is currently being performed
- Annunciator 5005-2K SRM period is received
- DCS indication for SRM 'A' shows a 15 sec. period.
- Operator verifies no rod movement.

From this information determine what procedure should be entered.

A. CPS 4007.02 Inadvertent Rod Movement

B. CPS 4007.03 Rod Drop

C. CPS 3304.02, Rod Control and Information System

D. CPS 3304.01 Control Rod Hydraulic and Control

Explanation:
From CPS 4007.02 Rod Drop a symptom of rod drop is short period < POAH. No rod drift alarms have been received. CPS 3304.01 and 3304.02 would provide no benefit.

Answer	Reference:	Question Pedigree:
B	CPS 4007.03 Rev. 7	**New**
Objective:	Cognitive Level:	Difficulty:
LP87507 .1.1	**1**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **69**	**BOTH**	**295015**	**AK2.03**

Following a scram signal:

- Rod 24-29 is at position 48
- Rod 36-17 is at position 28
- Rod 44-33 is at position 00

For these three rods what would be the LED indication on the Full Core Display?

	Rod 24-29	Rod 36-17	Rod 44-33
A.	Green	Red & Green	Red
B.	Red	Blank	Red
C.	Green	Red & Green	Green
D.	Red	Blank	Green

Explanation:
Rod 24-29 is Full-Out and would have the Full-Out “Red” LED lit.

Rod 36-17 is neither Full-Out nor Full-In so it would have no LEDs lit.

Rod 44-33 is Full-In and would have the Full-In “Green" LED lit.

Answer	Reference:	Question Pedigree:
D	LP87401-02	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**2.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **70**	**BOTH**	**295015**	**AK3.01**

An ATWS has occurred. CPS procedure 4411.08 Alternate Control Rod Insertion is being used to perform manual control rod insertion.

Why must the Rod Pattern Controller (RPC) be defeated and how is this accomplished?

A. ATWS rod positions may not match rod pattern in RCIS. Signal for Turbine First Stage pressure to RCIS is changed to indicate HIGHER power.

B. ATWS rod positions may not match rod pattern in RCIS. Signal for Turbine First Stage pressure to RCIS is changed to indicate LOWER power.

C. Position indication to rod pattern controller may be lost due to scram. Signal for Turbine First Stage Pressure to RCIS is changed to indicate HIGHER power.

D. Position indication to rod pattern controller may be lost due to scram. Signal for Turbine First Stage Pressure to RCIS is changed to indicate LOWER power.

Explanation:
The Control Rod Pattern does not match the pattern restraints of the Pattern Controller at high powers. The Pattern Controller uses Turbine First Stage Pressure to determine power with the Pattern Controller bypassed above 20% power.

Answer	Reference:	Question Pedigree:
A	LP87401-02 LP87553-05	**New**
Objective:	Cognitive Level:	Difficulty:
LP87553 .1.5.3	**2**	**3.3**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **71**	**BOTH**	**295017**	**AA1.07**

Which of the following would indicate a need to enter EOP-9, RADIOACTIVE RELEASE CONTROL?
A. A high alarm reading on 0RIX-PR003, SGTS PRM.
B. A high alarm reading on 0RIX-PR001, HVAC PRM.
C. A SPDS SGTS release indicating 5.3 E-3 Ci/sec.
D. A SPDS VENT STACK release indicating 2.3 E-2 Ci/sec.

Explanation:
EOP-9 requires entry at ALERT level, summation of all gaseous effluent releases >2.2 E-2 Ci/sec. SPDS calculates this as the sum of HVAC and SGTS release = Vent Stack.

Answer	Reference:	Question Pedigree:
D	LP87560-05	**New**
Objective:	Cognitive Level:	Difficulty:
LP87560 .1.1	**2**	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **72**	**BOTH**	**295019**	**AA1.01**

A plant transient has occurred with a Group 1 Isolation. Current Plant Conditions are:

- Reactor Water Level –50 inches and rising @ 3 inches per minute.
- Reactor Pressure 950 psig and being controlled by SRVs.

Subsequent to that the following annunciator was received:

5040-6F, HIGH/LOW PRESS ADS 1A SUPPLY DIV 1 OR 2

ADS Instrument Air Hdr Pressure Indicators on P601 both read 148 psig and slowly lowering.

From these indications what could be the possible cause of the annunciator?

A. Compressed Gas Outboard Isolation Valves (1IA012A & 13A) automatically closed on Group 1.

B. ADS Supply Header Inboard Isolation Valves (1IA012B & 13B) automatically closed on Group 1.

C. 1IA012A & 013A automatically closed, and 1IA012B & 013B switches were NOT in AUTO.

D. 1IA012B & 013B automatically closed, and 1IA012A & 013A switches were NOT in AUTO.

Explanation:
A These valves do not automatically close.
B These valves automatically close on Group 2.
C These valves are reversed – see correct answer D
D 12B & 13B closed on Level 2, and if the 12A & 13A switches were not in auto they would not open.

Answer	Reference:	Question Pedigree:
D	LP85301-03	**New**
Objective:	Cognitive Level:	Difficulty:
LP85301 .1.5.1	**2**	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **73**	**BOTH**	**295020**	**AK1.05**

Surveillance testing has produced a spurious LOCA initiation logic signal on the LPCS/RHR A initiation logic.

Shortly after the spurious signal annunciator, 5050-5G LOW FLOW DW CHILLER 1A CHILLED WTR was received and Drywell Chiller 1VP04CA tripped

If no operator action was taken what would be the expected plant response?

A. Drywell temperature would rise and stabilize below any trip setpoints because supplemental drywell cooling is still in service.

B. Drywell temperature and pressure would rise until a valid high drywell pressure signal would be received.

C. 1VP01CB will automatically start to prevent the rise of drywell pressure and temperature.

D. Temperature would initially rise but Mixing Compressors would automatically start and ventilate the drywell holding temperature and pressure down.

Explanation:
A supplemental Drywell cooling is not sufficient to stabilize temperature and pressure.
C & D The Drywell Chillers and the Mixing Compressors do not automatically start.

Answer	Reference:	Question Pedigree:
B	LP85222-02	**New**
Objective:	Cognitive Level:	Difficulty:
LP85222 .1.4.2	**1**	**3.3**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **74**	**BOTH**	**295020**	**AK2.10**

From the following, choose the consequence of an inadvertent containment isolation of Component Cooling Water (CC) on the RE/RF System.

A. Loss of cooling water to the sump and drain tank pump bearings, allowing them to overheat with possible bearing and pump damage; without pumps flooding could occur.

B. High water temperature in the Drywell sump with possible flashing to steam resulting in leakage being collected as unidentified leakage when steam is condensed.

C. Loss of cooling water to the sump and drain tank coolers, allowing hot water to be pumped to Radwaste which could cause personnel injury and/or equipment damage.

D. High water temperatures in the Containment Floor Drain Sumps with possible flashing to steam, resulting in rising area airborne activity and rising personnel exposure.

Explanation:
A. Component Cooling Water does not cool the pumps.
C. Hot water can be pumped to Radwaste without problems.
D. Containment Floor Drain Sumps are not cooled by Component Cooling Water.

Answer	Reference:	Question Pedigree:
B	LP85304-01	**CPS Exam Bank Question #8299**
Objective:	Cognitive Level:	Difficulty:
LP85304 .1.4.7	**2**	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **75**	**BOTH**	**295021**	**AA1.01**

Which of the following systems can alone provide an approved, alternate method of Shutdown Cooling if the RHR System is unavailable?
A. Low pressure core spray
B. Shutdown service water system
C. Control rod drive hydraulics
D. Reactor water cleanup

Explanation:
RWCU is the only system listed that by itself will remove heat from the reactor.

Answer	Reference:	Question Pedigree:
D	LP87299-01	**CPS Exam Bank Question #4025**
Objective:	Cognitive Level:	Difficulty:
LP87299 .1.5	**1**	**2.6**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **76**	**BOTH**	**295023**	**AA1.02**

Failure of the Reactor Cavity Bellows could first be identified by which of the following indications?

	Fuel Pool Cooling Storage Tank Level	Drywell RF Sump Level
A.	Lowering	Rising.
B.	Lowering	Lowering.
C.	Rising	Rising.
D.	Rising	Lowering.

Explanation:
A failure of the reactor cavity bellows will result in FC water leaking into the Drywell.

Answer	Reference:	Question Pedigree:
A	4011.01 Rev. 4	**New**
Objective:	Cognitive Level:	Difficulty:
LP87298 .1.1	**2**	**2.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **77**	**BOTH**	**295023**	**AK1.01**

Core Alterations are in progress.

An irradiated fuel bundle being moved from the reactor cavity to IFTS becomes ungrappled and falls into the reactor vessel downcomer area. (Between the vessel wall and the shroud)

Which of the the following people would be at greatest risk of radiation overexposure?

A. Operator in Fuel Building 755' el.

B. Mechanic working on SRVs

C. Refuel SRO on the Bridge

D. IM Technician at SLC Skid.

Explanation:
B Figure 11 of LP85449 shows the general location of each person. The mechanic would have the greatest risk because he could move into an area with very little shielding between him and the dropped fuel bundle. The other personnel have either large quantities of water or concrete as shielding.

Answer	Reference:	Question Pedigree:
B	LP85449-01, Figure 11	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**4.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **78**	**BOTH**	**295024**	**EK1.02**

What is the limiting component for Containment Pressure ≥ 46 psig?
A. Containment Vent Valves.
B. Containment Equipment Hatch.
C. Fuel Cladding.
D. ECCS Pumps.

Explanation:
With pressure >45 psig the containment vent valves will not open and decay heat could not be removed.

Answer	Reference:	Question Pedigree:
A	SAG Tech Bases	**New**
Objective:	Cognitive Level:	Difficulty:
LP87558 .1.8.5	**1**	**2.7**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **79**	**SRO**	**295025**	**2.1.33**

The reactor is in Mode 2 with startup in progress: Which of the following would require Tech Spec Action Statement entry?
A. Reactor pressure rises to 1049 psig.
B. Reactor water level rises to 55 inches.
C. Reactor pressure lowers to 845 psig.
D. Reactor water level lowers to 10 inches.

Explanation:
Tech Spec LCO 3.4.12 states "The reactor steam dome pressure shall be ≤ 1045 psig. In modes 1 and 2.

Answer	Reference:	Question Pedigree:
A	Tech Spec 3.4.12	**New**
Objective:	Cognitive Level:	Difficulty:
LP87625 .1.6.12	**2**	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **80**	**BOTH**	**295025**	**EK2.08**

The plant is operating at 30% power with the Pressure Regulator operating on Channel A.

A failure in the logic circuitry causes Channel A to fail downscale (zero psi pressure error signal), and also prevents the fault detection logic from placing Channel B in control.

Which one of the following actions is likely to occur?

A. The RGLTR ERROR light will illuminate and the TCVs will fail as is. Reactor pressure remains constant.

B. The TCV's and Bypass Valves will fully open. Reactor pressure goes down.

C. The TCVs will close and the Bypass Valves remain closed. Reactor pressure goes up.

D. The TCVs will close and the Bypass Valves will open. Reactor pressure remains constant.

Explanation:
A – would be true for failure of channel B
B – would be true for the signal failing to maximum.
D – would be true for a load limit signal failure.

Answer	Reference:	Question Pedigree:
C	LP87241-01	**CPS Exam Bank Question #6599 Modified**
Objective:	Cognitive Level:	Difficulty:
LP87241 .1.5.2	**2**	**3.3**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **81**	**SRO**	**295026**	**2.1.14**

The plant is operating at 100% power in the middle of summer.

- Several SRVs are leaking. Provide Tech Spec 3.6.2.1
- Yesterday at 1500 Suppression Pool temperature was 97°F
- Today at 1500 Suppression Pool temperature is 98°F

Which of the following describes the required actions and personnel that must be notified?

A. CPS 4100.01, Reactor Scram; Plant Management only.

B. CPS 3006.01, Unit Shutdown; Plant Management only.

C. CPS 4100.01, Reactor Scram; All onsite personnel via a plant announcement.

D. CPS 3006.01, Unit Shutdown; All onsite personnel via a plant announcement.

Explanation:
The LCO completion time for high suppression pool temperature has been exceeded causing entry into CPS 3006.01. Entry into CPS 3006.01 is considered a significant plant evolution which should be announced over the Gaitronics per CPS 1401.07.

Answer	Reference:	Question Pedigree:
D	Tech Spec 3.6.2.1	**New**
Objective:	Cognitive Level:	Difficulty:
LP87627 .1.2.9	**2**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **82**	**SRO**	**295026**	**EA2.03**

Provide copy Figure P

Which of the following conditions allow exceeding 100°F/hr cooldown rate?

	Suppression Pool Temperature	Suppression Pool Level	Reactor Pressure
A.	140°F	16 ft	1000 psig
B.	150°F	19 ft	700 psig
C.	150°F	18 ft	600 psig
D.	160°F	19 ft	400 psig

Explanation:

B. 150°F and 700 psig places the plant below the 18 ft 11 in line. (19 ft would use 18 ft 11 in line)
C. 150°F and 600 psig places the plant below the 17 ft line. (18 ft would use 17 ft line)
D. 160°F and 400 psig places the plant below the 18 ft 11 in line. (19 ft would use 18 ft 11 in line)

Answer	Reference:	Question Pedigree:
A	CPS 4402.01 Rev. 25 (EOP-6)	**New**
Objective:	Cognitive Level:	Difficulty:
	2	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **83**	**BOTH**	**295027**	**EA2.04**

A rupture in which of the following components would be indicated by high temperature and radiation levels in containment?
A. RCIC Rupture Disc
B. RT Heat Exchanger Relief
C. Inboard MSIV, 1B21-F022B
D. CCW Return Line CNMT Inboard Valve, 1CC053

Explanation:

A. RCIC Rupture Disc is not in Containment

C. Inboard MSIV, 1B21-F022B is in the Drywell

D. CCW Return Line CNMT Inboard Valve 1CC053 is a low energy system that would not give an indication of high temperature.

Answer	Reference:	Question Pedigree:
B	LP85204-07 & LP86204-05	**New**
Objective:	Cognitive Level:	Difficulty:
	2	**2.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **84**	**BOTH**	**295027**	**EK1.02**

The following conditions are observed following a Loss of Coolant Accident:

- Reactor Pressure 50 psig.
- Drywell Temperature 225°F
- Containment Temperature 135°F

Level instruments indicate as follows:

- Narrow Range Level 2 inches
- Shutdown Range Level 22 inches
- Wide Range Level -35 inches
- Fuel Zone Level -142 inches

Which of the following would be the preferred level instrument to monitor?

A. Narrow Range Level

B. Shutdown Range Level

C. Wide Range Level

D. Fuel Zone Level

Explanation:

A & B In accordance with EOP-1 Figure A these instruments are below their usable level for the conditions.
D. Fuel Zone should not be used as long as Wide Range Level is available, and it is.

Answer	Reference:	Question Pedigree:
C	CPS 4401.01 Rev. 25 (EOP-1)	**New**
Objective:	Cognitive Level:	Difficulty:
LP85423 .1.8.7	**2**	**3.3**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **85**	**SRO**	**295030**	**EA2.02**

Suppression Pool Level is 11 inches below normal pool level. Under this condition, where can Suppression Pool Temperature be read accurately?
A. SPDS or P678
B. P678 or P601
C. SPDS Only
D. P678 Only

Explanation:
EOP-6 states that if Suppression Pool Level drops below 18 ft. 6 in. read pool temperature on P678 or SPDS. Normal pool level is 18 ft. 11 in. to 19 ft. 5 in.

Justification for SRO Only: Condition is only addressed by an EOP subsequent step.

Answer	Reference:	Question Pedigree:
A	CPS 4402.01 Rev. 25 (EOP-6)	**New**
Objective:	Cognitive Level:	Difficulty:
LP87558 .1.4	**2**	**2.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **86**	**BOTH**	**295030**	**EK2.03**

- The plant was operating at 50% power when a LOCA occurred.
- LPCS is injecting to the reactor.
- Suppression pool level is lowering.

Which of the following is the highest suppression pool level that damage to the LPCS pump would be expected to occur?

A. 8 feet

B. 10 feet

C. 12 feet

D. 14 feet

Explanation:
In accordance with Detail Z the Minimum Suppression Pool Level for LPCS Pump is 11 ft., therefore:
A & B are below the Minimum level with B being the highest.
C & D are above the minimum level and would not cause damage.

Answer	Reference:	Question Pedigree:
B	CPS 4402.01 Rev. 25 (EOP-6)	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**2.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **87**	**BOTH**	**295031**	**2.4.11**

The plant was operating at 100% reactor power when a Feedwater transient occurred.

Upon stabilization of the plant the following conditions exist:

- Reactor Power 63%
- Reactor Water Level 18 inches narrow range
- Reactor Recirc pumps in slow speed

The operator notices the following annunciators have been received:

5002-2Q, RX WTR LEVEL HI-LO

5004-1B, DIV 1 OR 4 RX VESSEL LO LVL TRIP

5004-1B, DIV 2 OR 3 RX VESSEL LO LVL TRIP

Based on the information above, which of the following would be the next action to take?

A. Lower the Master Level Control Tape Set to 18 inches, and Reset the "Setpoint Setdown" Logic.

B. Immediately enter EOP-1A, ATWS RPV CONTROL

C. Place the Mode Switch in SHUTDOWN

D. Trip both Reactor Recirc pumps.

Explanation:
The annunciators indicate that a valid Scram signal (Level 3) occurred and the reactor did not automatically scram, so a manual scram should be inserted by placing the mode switch in shutdown.

Answer	Reference:	Question Pedigree:
C	CPS 4100.01 Rev. 17	**CPS Exam Bank Question #0045 Modified**
Objective:	Cognitive Level:	Difficulty:
	1	**2.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **88**	**BOTH**	**295032**	**EK2.04**

- The reactor is operating at 78% reactor power in a normal plant configuration.
- The Main Steam Line Tunnel temperature alarm has initiated and now reads 176 degrees F.

Which of the following systems would immediately isolate in response to this high temperature?

A. Main Steam, RCIC

B. Main Steam, RWCU

C. RCIC, Feedwater

D. RWCU, Feedwater

Explanation:
A. The RCIC isolation has a 28 minute time delay.
C. & D. Feedwater does not isolate on this signal.

Answer	Reference:	Question Pedigree:
B	Tech. Spec. table 3.3.2-2	**CPS Exam Bank Question #3746**
Objective:	Cognitive Level:	Difficulty:
	1	**2.8**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **89**	**SRO**	**295033**	**EA2.03**

The plant is operating at 100% with the following:

- RP has conducted routine surveys and found the following:
  - 15 mr/hr field in the aux. Bldg. East access aisle el 737'.
  - 20 mr/hr field in the LPCS Pump Room.
  - 35 mr/hr field in the RHR B Pump Room.
- Fuel Building exhaust radiation is reading 5 mr/hr and trending upward.
- RWCU pump room A area temperature alarms and is reading 132°F.
- Aux Bldg Steam Tunnel is reading 99°F.

What actions should be taken?

A. Enter EOP-8 Secondary Containment Control and isolate RWCU.

B. Enter EOP-8, Secondary Containment Control and start SGTS.

C. Enter EOP-3, Emergency RPV Depressurization (Blowdown) and evacuate the Containment.

D. Enter EOP-1, RPV Level Control and turn the Mode Switch to Shutdown.

Explanation:

B. Fuel Bldg exh rads are not high enough (10 mr/hr) to isolate Fuel Bldg Ventilation and start SGTS.

C. Need 2 Max Safe Levels to enter EOP-3, currently do not have any.

D. Need 1 Max Safe Level to enter EOP-1, currently do not have any.

Answer	Reference:	Question Pedigree:
A	CPS 4406.01 Rev. 25 (EOP-8)	**New**
Objective:	Cognitive Level:	Difficulty:
	2	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **90**	**BOTH**	**295034**	**EK1.02**

Fuel Building exhaust radiation level is currently 6 mr/hr. What would be the operational implications if the radiation levels were to double?
A. Primary Containment integrity would be lost.
B. Secondary Containment integrity would be lost.
C. Equipment area temperatures would approach design limits.
D. Ground level radiation release would approach release limits.

Explanation:
Fuel Bldg Ventilation trips on a high rad condition of 10 mr/hr. SGTS starts to maintain Secondary Containment Integrity but does not provide the same capacity as the Fuel Bldg Ventilation, so area temperatures could rise.

Answer	Reference:	Question Pedigree:
C	LP85449-01	**New**
Objective:	Cognitive Level:	Difficulty:
LP85449 .1.6.3	**2**	**3.8**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **91**	**SRO**	**295036**	**2.4.10**

Which of the following "HIGH-HIGH FLR/EQUIP DRAIN SUMP" alarms would indicate primary system leakage from the RCIC Turbine AND which procedure would require entry?
A. Auxiliary Building; EOP-8, Secondary Containment Control
B. Fuel Building; EOP-8, Secondary Containment Control
C. Auxiliary Building; EOP-6, Primary Containment Control
D. Fuel Building; EOP-6, Primary Containment Control

Explanation:
RCIC high sump alarm inputs to HIGH-HIGH FLR/EQUIP DRAIN SUMP AUX BLDG (5013-5D). EOP-8 entry is required if RCIC pump room sump is alarming.

The entire Fuel Bldg is located within the secondary containment. The RCIC suction and test return piping are routed through the Fuel Bldg to the RCIC storage tank.

Answer	Reference:	Question Pedigree:
A	CPS 5013.05 Rev. 27	**New**
Objective:	Cognitive Level:	Difficulty:
	2	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **92**	**SRO**	**295036**	**EA2.02**

The plant is operating at 100 % power.

Prerequisites for RHR "A" Pump Operability have been completed.

When the RHR 'A' Pump is started the 'C' Area operator reports that a water hammer has occurred and there is water spraying from the RHR Pump Discharge Check Valve.

The 'A' Reactor Operator reports that suppression pool level is 18.8 ft and lowering at 0.1 ft/min.

Of the following, what are the appropriate actions?

A. Immediately scram the reactor and BLOWDOWN.

B. Immediately scram the reactor and dump the upper pools.

C. Stop the RHR 'A' Pump, isolate RHR 'A' system from the suppression pool and dump the upper pools.

D. Stop the RHR 'A' Pump, isolate RHR 'A' system from the suppression pool and restore suppression pool level.

Explanation:
In this situation the RHR "A" system can be isolated from the suppression pool and the suppression pool level restored. Therefore the following are incorrect because:
A. Would only be necessary if pool level could not be held above 15 ft. 1 in.
B. Would only be necessary if pool level was approaching 15 ft. 1 in.
C. Do not need to dump the upper pools at this time.

Answer	Reference:	Question Pedigree:
D	CPS 4402.01 Rev. 25 (EOP-6)	**New**
Objective:	Cognitive Level:	Difficulty:
	2	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **93**	**BOTH**	**295037**	**EA1.04**

You have been directed to initiate Standby Liquid Control. You turn the keylock switch for the SLC pump 'A' to on. You note that the explosive valve fires, but SLC Pump 'A' did not start. Why hasn't SLC Pump 'A' started?
A. RWCU Outboard Isolation Valve has not yet closed.
B. RWCU Inboard Isolation Valve has not yet closed.
C. SLC Storage Tank Outlet Valve has not yet fully opened.
D. The SLC Pump discharge valve is closed.

Explanation:
Incorrect
A, B, D None of these provides input to the SLC Pump start circuitry.

Correct
C The pump will not start until it has a suction path available, so the Storage Tank Outlet Valve must be fully open before the pump will start.

Answer	Reference:	Question Pedigree:
C	LP85211-03	**CPS Exam Bank Question #3132**
Objective:	Cognitive Level:	Difficulty:
LP85211 .1.4.3	**1**	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **94**	**SRO**	**295038**	**2.4.10**

The following high alarm is received on the AR/PR panel

1RIX-PR004, FC HX 1A CLG WTR EFFLUENT 712 FB AL-106

The monitor is reading 2.3 E-3 uCi/cc

Provide copy of EC-02 Section 3.1

No other High Alarms are in.

From this information what would be the correct response?

A. Enter EOP-9, Radioactive Release Control, and isolate all primary systems discharging outside primary and secondary containment.

B. Enter EOP-8, Secondary Containment Control, and verify Fuel Building Exhaust Rad < 10mR/hr.

C. Enter EC-02, Emergency Classifications, and declare an 'Unusual Event' due to symptom 3.1 'Radiological Releases-Liquid'.

D. Enter EC-02, Emergency Classifications, and declare an 'Alert' due to symptom 3.1 'Radiological Releases-Liquid'.

Explanation:
In accordance with EC-02 an Unusual Event would be declared if 1RIX-PR004 were reading greater than or equal to 1.0 E-3 µCi/cc. The current reading is not yet at the "Alert" level.

The alarm 1RIX-PR004, FC HX 1A CLG WTR EFFLUENT 712 FB AL-106 would be considered an annunciator response type alarm even though it is occurring on a computer monitor screen.

Answer	Reference:	Question Pedigree:
C	EC-02 Rev. 6 CPS 4406.01 Rev. 25 (EOP-8 & 9)	**New**
Objective:	Cognitive Level:	Difficulty:
	2	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **95**	**BOTH**	**295014**	**AA2.01**

Which of the following would cause reactor power to go up?
A. RR Flow Control Valve closing.
B. Rod Scram Outlet Valve opening.
C. 6B Extraction Steam Shutoff Valve closing.
D. CD Pump Minimum Flow Valve opening

Explanation:
The 6B Extraction Steam Shutoff Valve closing will prevent the heating of the feedwater in the 6B heater, thereby, causing colder feedwater to enter the vessel and drive reactor power up.

Answer	Reference:	Question Pedigree:
C	LP87300-01	**New**
Objective:	Cognitive Level:	Difficulty:
LP87300 .1.7.10	**2**	**2.8**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **96**	**BOTH**	**295016**	**AA2.01**

The plant was operating at 100% power.

The Main Control Room is being evacuated due to a fire in 1H13-P680. No actions can be performed on P680 due to the fire.

Which of the following could you check to determine that the reactor is shutdown?

A. Scram Solenoid Lights are deenergized.

B. SRVs are not cycling automatically.

C. 'All Rods Full In' LED at either RACS panel.

D. Main Generator MWe indicates zero.

Explanation:
A. & D. Located on P-680
B. Not a true indicator that the reactor is shutdown.

Answer	Reference:	Question Pedigree:
C	CPS 4100.01 Rev. 17	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**3.3**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **97**	**BOTH**	**600000**	**AK3.04**

CPS 1893.04 FIRE FIGHTING contains the following:

IF a fire alarm occurs in MCR panel H13-P661, or associated subfloor area

AND it cannot be immediately confirmed that a fire does NOT exist,

THEN place the Division 1 SRV handswitches in the Off position.

The reason for this step is to:

A. Deenergize the wiring to remove the source of the fire.

B. Prevent energizing the Div 1 SRV Solenoids.

C. Prevent energizing the Div 1 SRV Solenoids from Div II power.

D. Maintain operability of the SRVs.

Explanation:
The fire could cause a "Hot Short" and energize the Div. 1 SRV solenoids from Div. 1 power.

Answer	Reference:	Question Pedigree:
B	CPS 4003.01 Rev 13	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**3.0**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **98**	**SRO**	**294001**	**2.1.11**

Given the following conditions:

- The plant is in Mode 5 with fuel being moved from the RPV to the spent fuel pool using the Inclined Fuel Transfer System.
- The Division 1 Main Control Room HVAC subsystem is out of service for maintenance.
- The Division 2 Main Control Room HVAC subsystem is in service.

If a malfunction occurred and the Division 2 Main Control Room HVAC subsystem tripped, the TS required IMMEDIATE action is to…

A. Start at least one train of Standby Gas.

B. Stop irradiated fuel movement in the Spent Fuel Pool.

C. Verify primary and secondary containment are established.

D. Verify Control Bldg pressure is negative compared to the outside.

Explanation:
In accordance with T.S. 3.7.4: If two control room AC subsystems are inoperable, then suspend movement of irradiated fuel assemblies in the primary and secondary containment.

Answer	Reference:	Question Pedigree:
B	T. S. 3.7.4	**CPS NRC Exam 2000**
Objective:	Cognitive Level:	Difficulty:
	2	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **99**	**SRO**	**294001**	**2.2.11**

Which of the following Temporary Modifications can be authorized prior to the completion of the associated documentation?
A. Installation of jumpers to allow Rod Exercising.
B. Installation of a patch on a WS pipe that has wall thinning.
C. Installation of a Blocking Device to maintain Div I Diesel Generator Ventilation Exhaust Damper open.
D. Installation of a jumper on a faulty ground overcurrent relay on a RHR pump needed for core cooling.

Explanation:
An Emergency Temporary Modification may be authorized prior to completion of the documentation.
The definition of an Emergency Temporary Modification is:

A modification required to be implemented to correct one of the following conditions:

- Potential damage to important SSCs that support the safe shutdown of the plant.

Answer	Reference:	Question Pedigree:
D	CPS 1014.03 Rev. 20	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**3.5**

Clinton Power Station
2001 ILT Exam

Question:	Exam	System	KA
# **100**	**SRO**	**294001**	**2.4.22**

Within the power leg of EOP-1 there is a shifting of priorities concerning starting Standby Liquid Control (SLC) depending on whether reactor power is greater than 5%.

What is the basis for needing to start SLC immediately if power is >5%?

A. Preclude power oscillations and ensure the plant remains in a controlled state.

B. Minimize Suppression Pool Temperature rise.

C. Complete SLC injection before RWCU is needed for pressure control.

D. Enables Main Turbine to be tripped earlier.

Explanation:
EOP Technical Bases states: "If reactor power remains above the APRM downscale setpoint following multiple attempts to scram the reactor, Clinton operating practices call for immediate injection of boron to preclude power oscillations and ensure that the plant remains in a controlled state."

Answer	Reference:	Question Pedigree:
A	EOP Technical Bases Pg 5-45	**New**
Objective:	Cognitive Level:	Difficulty:
	1	**3.5**