

## **Question #1**

Vermont Yankee LOI Exam Bank Question Number 5878 Revision 1

Instructor Guide: LOT-00-602 OPERATIONAL TRANSIENT PROCEDURES

Objectives: CRO EO-3, EO-5

References: OPOT-3118, (page 4 Note)

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Comprehension

### Task Associations

Task Number	Task Title
2000150504	Respond to Recirculation Pump Trip
2027050201	Perform Flow Indication Check Prior to Startup (RX) or Recirc Pump Startup

### Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295001	AK2.07	Knowledge of the interrelations between and the following PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION: (CFR 41.7, 45.8): Core flow indication	3.4	3.4

### Question:

A plant startup is in progress with the plant at 10% power when the 'A' recirc pump trips. The 'A' recirc discharge valve (RV-53A) is SHUT by the CRO and then OPENED for 3 seconds.

Total jet pump flow as indicated on DPR/FR-2-3-91 is to the left of the natural circulation line on the power to flow map.

IAW OPOT-3118-01 Recirculation Pump Trip, what is the reason for this indication?

	Answer/Distractor	Justification
a.	The reverse flow summer is subtracting positive flow through the idle loop jet pumps.	Correct - Use Core D/P - When one discharge valve is not full open or recirculation pump field breaker opens after a single pump trip, the reverse flow summer is designed to compensate for the resulting reverse flow in the idle loop. However, some single loop conditions (less than 5 mlb/hr or 14 kgpm drive flow

		in operating loop) result in positive flow through the idle jet pumps. If positive flow through the idle jet pumps occurs, actual core flow will be greater than the core flow indicated on the TOTAL JET PUMP FLOW RECORDER (DPR/FR 2 3 95).
b.	The reverse flow summer is subtracting negative flow through the idle loop jet pumps.	Incorrect - Plausible as the summer is providing a calculation input to the P/F map but it is the positive flow under these specific conditions.
c.	A jet pump mixer has been displaced.	Incorrect - Plausible due to transient, but this would cause an INCREASE in indicated jet pump total flow, though student could think that bypassing the core would result in less flow not understanding where measured. (see ON 3141)
d.	The recirculation flow comparator is compensating for the natural circulation in the idle loop.	Incorrect - plausible, The flow comparator does not compensate for idle loop operation.

Static Simulator Exams: None

Last Revised: 1-29-13, BLS.

## Question #2

Vermont Yankee LOI Exam Bank Question Number 7588 Revision 1

Instructor Guide: LOT-00-602 OPERATIONAL TRANSIENT PROCEDURES

Objectives: K3.01

References: OPOT-3122-01, Step 3.6

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Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Comprehension

Task Associations

Task Number	Task Title
2007020501	Respond to Loss of Normal Power

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295003	AA2.04	Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF A.C. POWER : AA2.04 System lineups	3.5	

Question:

A Loss of Offsite power has occurred and the following conditions exist:

- 'A' Diesel Generator started and is supplying its bus
- 'B' Diesel Generator started but did NOT close in on its bus due to a fault on the bus
- No buses have been cross-tied

IAW OT 3122, Loss of Normal Power, which ONE of the following actions is required for supplying the Vital AC Bus and why is this action taken?

	Answer/Distractor	Justification
a.	Transfer the Vital MG to the AC Drive motor to minimize station DC loads on the Station Battery.	Incorrect - Incorrect there is no power supply to 480 VAC Bus 8 (8B).
b.	Transfer the Vital AC Bus to its alternate source to minimize station DC loads on the Station Battery.	Correct Response- – With the loss of 480 VAC Bus 8 (8B) the Vital AC MG set swaps from the AC supply to the DC Supply to minimize the load on the station batteries OT 3122 directs shifting to the alternate supply.

c.	Adjust the 'A' EDG frequency as required to obtain a steady state 59.7 to 60.5 Hz to permit the Vital AC Bus to automatically transfer to the AC Drive.	Incorrect - Incorrect the A EDG supplies 480 VAC Bus 9, adjusting voltage on that EDG will have no effect.
d.	Adjust the 'A' EDG frequency as required to obtain a steady state 59.7 to 60.5 Hz to prevent the Vital AC Bus from automatically transferring to the DC Drive.	Incorrect - Incorrect the A EDG supplies 480 VAC Bus 9, adjusting voltage on that EDG will have no effect.

Static Simulator Exams: None

Last Revised: 1-29-13, by Stewart, Brian



### **Question #3**

#### **Vermont Yankee LOI Exam Bank Question Number 995 Revision 1**

**Instructor Guide:** LOT-00-263 DC ELECTRICAL DISTRIBUTION SYSTEM

**Objectives:** K3.01, K3.02, K3.03

**References:** OPON-3159-01, pages 2 & 3; OP 2145

**Reference Open/Closed:** Closed

**SRO Only:** No **Style:** Multiple Choice

**Point Value:** 1 **Time to Complete (Minutes):** 1

**Question Level:** Comprehension

#### **Task Associations**

<b><u>Task Number</u></b>	<b><u>Task Title</u></b>
2007350404	Respond to a Loss of DC-1

#### **Knowledge and Abilities Associations**

System	K/A No.	Statement	RO	SRO
295004	AA1.02	Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER: (CFR 41.7, 45.6): Systems necessary to assure safe plant shutdown	3.8	4.1

#### **Question:**

The plant has experienced a small break LOCA and LNP.

The EOPs have been entered.

- Both Emergency Diesel Generators (EDG) are running loaded
- High Pressure Coolant Injection (HPCI) is injecting at 2000 GPM
- Reactor Core Isolation Cooling (RCIC) is injecting at 350 GPM

Subsequently, a loss of DC-1 occurs.

How is the operation of HPCI, RCIC, and the EDGs affected?

	Answer/Distractor	Justification
a.	The HPCI and RCIC high level trips would not function. The control power to "A" EDG would be lost.	Incorrect - control power is lost to the "B" EDG not the "A". Control power to the "A" EDG is DC-AS2.
b.	The HPCI high level trip would not function, RCIC high level trip would be unaffected.	Incorrect - RCIC high level trip is also lost and the "B" EDG loses control power.

	The control power to “A” EDG would be lost.	
c.	The RCIC high level trip would not function, HPCI high level trip would be unaffected. The control power to the “B” EDG would be lost.	Incorrect - HPCI high level trip is also lost
d.	The HPCI and RCIC high level trips would not function. The control power to the “B” EDG would be lost.	Correct - HPCI and RCIC high level trip would not function. The control power to the “B” EDG would be lost.

Static Simulator Exams: None

Last Revised: 1-29-13, BLS

## Question #4

### Vermont Yankee LOI Exam Bank Question Number 1127 Revision 1

Instructor Guide: LOT-01-262 4 KV ELECTRICAL DISTRIBUTION SYSTEM

Objectives: CRO 8

References: OP 2142

Must integrate the following:

- Know the start of transfer logic
- Know sync check is required for fast transfer
- Understand residual bus transfer does not require a sync check

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 3

Question Level: Comprehension

#### Task Associations

Task Number	Task Title
2627400401	Respond to Loss of Fast Transfer SYNCHRO Check Relay

#### Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295005	AA2.08	Ability to determine and/or interpret the following as they apply to MAIN TURBINE GENERATOR TRIP: AA2.08 Electrical distribution status.	3.2	

#### Question:

- A reactor startup is in progress with the generator synchronized to the grid and operating at 40% power.
- Computer point D619 (Bus 1 Sync-check relay) prints out in the alarm (LOSS) state.
- Ten minutes later, the main generator trips and locks out.

In this condition:

	Answer/Distractor	Justification
a.	Recirc MG 'B' drive motor breaker will trip, on bus undervoltage.	Incorrect - Powered from Bus 2. Fast transfer of Bus 2 is satisfactory.
b.	Bus 1 Residual bus transfer will occur.	Correct - Residual transfer does not require the sync-check.
c.	Reactor feedwater pump 'B' will trip when Bus 1 voltage decays to 1000 volts, after a 5 second time-delay.	Incorrect – 'B' RFP is powered from bus 1 and then it trips in 0.3 sec before Bus 1 voltage drops to <1000 VAC

d.	Bus 1 Automatic fast transfer will occur.	Incorrect - Requires sync-check relay.
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Static Simulator Exams: None

Last Revised: 1-29-13, BLS

## **Question #5**

### **Vermont Yankee LOI Exam Bank Question Number 3531 Revision 6**

**Instructor Guide:** LOT-00-610 EOP-1, RPV CONTROL; EOP-2, ATWAS RPV CONTROL

**Objectives:** CRO 3

**References:** EOP-2 and study guide section 7 page 39; HCO-The operator must analyze the current reactivity conditions and conclude the present and future state to correctly determine the correct answer.

**Reference Open/Closed:** Closed

**SRO Only:** No **Style:** Multiple Choice

**Point Value:** 1 **Time to Complete (Minutes):** 4

**Question Level:** Comprehension

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
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2000200501	Respond to ATWS Event(s)
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#### **Knowledge and Abilities Associations**

System	K/A No.	Statement	RO	SRO
295006	AK1.02	Knowledge of the operational implications of the following concepts as they apply to SCRAM: (CFR 41.8 to 41.10): Shutdown margin	3.4	3.7

#### **Question:**

A failure to scram has occurred.

The crew is taking actions per EOP-2, ATWS RPV Control.

The following conditions exist:

- RPV pressure is being maintained 800-1000 psig with SRVs
- RPV level is being maintained -19 inches to +90 inches with feed pumps
- Initial SLC tank level was 92% when it was injected into the RPV
- The SLC tank level is currently 70%
- Rods are being inserted manually, with 40 rods still at position 48

IAW the EOP-2 study guide, which of the following statements is true?

	Answer/Distractor	Justification
a.	The reactor is shutdown and will remain shutdown if pressure is maintained within current range.	Correct – This is the Hot S/D Boron Weight definition from the EOP study guide +2%.
b.	The reactor is shutdown so a reactor	Incorrect - Cannot cooldown until

	cooldown should be started.	CSDBW injected which would be 62% SLC tank level.
c.	The reactor is not shutdown until SLC tank level is 67% at the current RPV pressure band.	Incorrect - Hot S/D Boron Weight definition is 20% which is more than met here by +5%.
d.	The reactor is not shutdown until SLC tank level is 67% and a cooldown should be started.	Incorrect - At rated pressure the Rx is S/D with HSDBW, not CSDBW.

Static Simulator Exams: None

Last Revised: 1-29-13, BLS

## **Question #6**

### **Vermont Yankee LOI Exam Bank Question Number 7582 Revision 0**

**Instructor Guide:** LOT-00-612 SHUTDOWN USING ALTERNATE SHUTDOWN METHODS

**Objectives:** K3.03

**References:** OPOP-ALTSD-3126, Rev 18 pg 6, 8 and 51

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**Reference Open/Closed:** Closed

**SRO Only:** No **Style:** Multiple Choice

**Point Value:** 1 **Time to Complete (Minutes):** 1

**Question Level:** Fundamental Knowledge/Memory

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2000680504	Perform Shutdown Using Alternate Shutdown Methods

#### **Knowledge and Abilities Associations**

System	K/A No.	Statement	RO	SRO
295016	AK3.03	Knowledge of the reasons for the following responses as they apply to CONTROL ROOM ABANDONMENT: (CFR 41.5, 45.6): Disabling control room controls	3.5	3.7

#### **Question:**

IAW OPOP-ALTSD-3126, Shutdown Using Alternate Shutdown Methods, which ONE of the following occurs when the 4KV/480V Switchgear transfer switches are placed in EMER and what is the reason for this transfer?

	Answer/Distractor	Justification
a.	MOST automatic functions and system interlocks are defeated because a fire may cause inadvertent automatic actions.	Correct Response- OP-3126, P & L #1 Placing the RCIC, RHR, 4KV/480V Switchgear, or the DG transfer switches in EMER removes control function from the Control Room and defeats most automatic functions and system interlocks. OP-3126, PG 51, Local Operation of 4KV Bus 4 Breaker, states Place the alternate shutdown transfer switch to the emergency position and then place the emergency breaker control switch to the desired position. If not shifted to alternate various automatic actions may or may not occur as intended or they may occur inadvertently.

b.	ONLY breaker control functions from the Control Room are defeated because Appendix R requires that components must be controlled only from one area.	Incorrect - Most automatic functions and system interlocks are defeated and if not shifted to alternate various automatic actions may or may not occur as intended or they may occur inadvertently.
c.	ALL automatic functions remain available but system interlocks are defeated because operators have fewer indications and controls available to them during alternate shutdown.	Incorrect - Most automatic functions and system interlocks are defeated and if not shifted to EMERG various automatic actions may or may not occur as intended or they may occur inadvertently.
d.	MOST automatic functions and system interlocks are available because Appendix R requires the majority of interlocks and automatic functions to remain functional.	Incorrect - Most automatic functions and system interlocks are defeated and if not shifted to alternate various automatic actions may or may not occur as intended or they may occur inadvertently.

Static Simulator Exams: None

Last Revised: 2-4-13, by Stewart, Brian



## **Question #7**

Vermont Yankee LOI Exam Bank Question Number 5677 Revision 1

Instructor Guide: LOT-00-603 OFF-NORMAL PROCEDURES - SIMULATOR

Objectives: CRO 3g

References: OPON-3147, pgs 2 & 3

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Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Comprehension

Task Associations

Task Number	Task Title
2000110501	Respond to RBCCW Failure

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295018	2.4.31	2.4.31 Knowledge of annunciator alarms, indications, or response procedures.	4.2	

Question:

- The running RBCCW pump has tripped and the standby pump did NOT automatically start
- The standby pump cannot be started

IAW OPON-3147-01, Loss of RBCCW, which of the following components/systems must be shutdown/tripped?

	Answer/Distractor	Justification
a.	The Reactor Water Cleanup System AND the Recirculation Pumps ONLY.	Incorrect - All three components/systems must be shutdown.
b.	The Recirculation Pumps AND the operating CRD Pump ONLY.	Incorrect - All three components/systems must be shutdown.
c.	The operating CRD Pump AND the Reactor Water Cleanup System ONLY.	Incorrect - All three components/systems must be shutdown.
d.	The Recirculation Pumps, the operating CRD Pump AND the Reactor Water Cleanup System.	Correct – RWCU must be shutdown/verified isolated and shutdown. The CRD pumps supplying seal water and hi temperature effects on resin (demineralizers are protected by an

	automatic isolation at 140°F). Recirc pump seals will be damaged and the recirc pumps are required to be shutdown within 2 minutes after RBCCW is lost. CRD pump bearings and reduction gear are cooled by RBCCW and must be manually shutdown to prevent damage.
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Static Simulator Exams: None

Last Revised: 1-29-13 by Stewart, Brian

## Question #8

Vermont Yankee LOI Exam Bank Question Number 2947 Revision 1

Instructor Guide: LOT-00-279 SERVICE AND INSTRUMENT AIR SYSTEM

Objectives: CRO 5, AO 14

References: OP 2190, pg 3 & 4

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 3

Question Level: Fundamental Knowledge/Memory

Task Associations:

Task Associations:

Task Number	Task Title
2007500404	Respond to Low Instrument Air, scram air header pressure

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295019	AA2.01	Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR : AA2.01 Instrument air system pressure	3.5	

Question:

A break at the outlet of the Station Air Receivers causes system pressure to slowly lower.

IAW OP-2190, Service and Instrument Air, which ONE of the following is the system response to maintain Instrument Air header pressure?

	Answer/Distractor	Justification
a.	The LAG air compressors will cycle on at 85 psig and off at 90 psig.	Incorrect –The lag compressor cycles between 95 and 100#.
b.	The LAG air compressors will cycle on at 90 psig and off at 95 psig.	Incorrect - The lag compressor cycles between 95 and 100#.
c.	PCV-1 closes as air header pressure drops and is fully shut at 80 psig.	Correct Response- This is the system response to lowering inst. Air header pressure to maintain critical plant components by closing off the service air header.
d.	PCV-1 opens as air header pressure drops and is fully open at 80 psig.	Incorrect – PCV-1, air to the service air header vlv, closes to preserve inst. Air

		header pressure.
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Static Simulator Exams: None

Last Revised: 1-29-13 by BLS

## **Question #9**

Vermont Yankee LOI Exam Bank Question Number 3541 Revision 1

Instructor Guide: LOT-00-601 OFF-NORMAL PROCEDURES

Objectives: 3

References: ON 3156

Justification: ON 3156 directs the use of Condensate Transfer through the CS system or CRD flow as one of the feed methods. CRD is not one of the available answers and the other systems are not procedurally directed.

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 2

Question Level: Fundamental Knowledge/Memory

Task Associations

**Task Number Task Title**

2000150501 Respond to a Loss of Shutdown Cooling

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295021	AA1.01	Ability to operate and/or monitor the following as they apply to LOSS OF SHUTDOWN COOLING : AA1.01 Reactor water cleanup system	3.4	

Question:

Refueling is in progress.

A loss of shutdown cooling occurred with reactor coolant temperature at 155° F and rising slowly.

Based on the direction in ON-3156, Loss of Shutdown Cooling, the CRS directs a feed and bleed of the reactor vessel.

What systems should be directed for use as the initial feed and bleed method?

	Answer/Distractor	Justification
a.	Condensate transfer through the Core Spray system with RWCU letdown.	Correct - IAW ON-3156.
b.	Condensate transfer through the Core Spray system and an open SRV.	Incorrect - Condensate transfer may be used with SRV's but only to stay <212° F. Core spray is only used when the reactor cavity is NOT flooded.
c.	Injection by using the Core Spray pumps with RWCU letdown.	Incorrect - Core spray is only used when the reactor cavity is NOT flooded.

d.	Injection by using Core Spray pumps and an open SRV.	Incorrect - Core spray is only used when the reactor cavity is NOT flooded. SRV's are only used to stay <212° F. This should not be used initially at 105° F.
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Static Simulator Exams: None

Last Revised: 1-29-13 by BLS

## **Question #10**

Vermont Yankee LOI Exam Bank Question Number 7321 Revision 1

Instructor Guide: LOT-00-620 REFUELING ACCIDENT ANALYSIS

Objectives: EO 1

References: OP 1100, Refuel Platform Operation

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Comprehension

Task Associations

Task Number	Task Title
2347240102/04	Perform Fuel Handling Operations Using the Auxiliary Hoist

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295023	AA1.04	Ability to operate and/or monitor the following as they apply to REFUELING ACCIDENTS: (CFR 41.7, 45.6): Radiation monitoring equipment	3.4	3.7

Question:

During a Refuel Outage, half-way through a Full Core Offload, the refueling crew notifies the Control Room that they dropped a fuel bundle and it is balancing over the edge of the cattle chute.

Using the following information:

- Refuel Floor radiation levels are normal
- Reactor Building radiation levels are normal
- Reactor Building Ventilation Exhaust radiation levels are normal

Immediately following the incident, which of the following is a correct action for the refueling crew IAW OP 1100, Refuel Platform Operation?

	Answer/Distractor	Justification
a.	Attempt to move the fuel bundle to a stable location and do not evacuate until directed by RP.	Incorrect – OP 1101, P/L #19 States that under NO circumstances shall immediate action be taken to recover or reposition a dropped fuel assembly.
b.	Evacuate the Refuel Floor of all personnel immediately regardless of RP direction.	Correct - IAW OP 1100, this is one of the listed conditions to evacuate the refuel floor immediately.

c.	Move the bundle to a stable location and then evacuate the Refuel Floor of all personnel.	Incorrect - The conservative action to protect personnel is to evacuate the refuel floor. OP 1101, P/L #19 States that under NO circumstances shall immediate action be taken to recover or reposition a dropped fuel assembly.
d.	Halt refueling operations and notify the RP Coordinator to initiate area monitoring and do not evacuate until directed by RP.	Incorrect –The conservative action to protect personnel is to evacuate the refuel floor.

Static Simulator Exams: None

Last Revised: 1-31-13 by BLS



## Question #11

Vermont Yankee LOR Exam Bank Question Number 1976-Revised Revision 2

System:

Instructor Guide: LOT-00-261 STANDBY GAS TREATMENT SYSTEM

Objectives: K5.02, K6.08

References: OE 3107 Appendix B, OPOP-SGT-2117 rev 01

Reference Open/Closed: Open

SRO Only: No Style: Multiple Choice Category: Limits & Controls

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Comprehension

Task Associations

Task Number	Task Title
2000310501	Respond to Low Reactor Water Level
2610020101	Place the SBTG System in Standby Readiness

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295024	EA1.20	Ability to operate and/or monitor the following as they apply to HIGH DRYWELL PRESSURE: EA1.20 Standby gas treatment/FRVS: Plant-Specific	3.5	

Question:

The plant was operating at 30% RTP with the "A" Train of SBTG in a standby lineup.

The plant scrammed due to a DW leak.

The DW pressure is currently 2.8 psig and steady with all DW RRUs in service.

Based on plant conditions, and IAW OP 2117 SBTG System, what is the expected position of the following SBTG valves?

SGT-1A (SGT Inlet Bypass) \_\_\_\_\_(1)\_\_\_\_\_

SGT-2A (SGT Inlet Isolation) \_\_\_\_\_(2)\_\_\_\_\_

SGT-3A (SGT Discharge Isolation) \_\_\_\_\_(3)\_\_\_\_\_

	Answer/Distractor	Justification
a.	(1) remains OPEN (2) OPENS (3) OPENS	Incorrect - In a standby lineup, the 2A and 3A are open. A PCIS group 3 signal was received and both trains of SBTG start. As a result, the 1A valve will open.
b.	(1) remains CLOSED (2) remains OPEN	Incorrect - In a standby lineup, the 2A and 3A are open. A PCIS group 3 signal was

	(3) remains OPEN	received and both trains of SBGT start. As a result, the 1A valve will open.
c.	(1) OPENS (2) remains OPEN (3) remains OPEN	Correct - In a standby lineup, the 2A and 3A are open. A PCIS group 3 signal was received and both trains of SBGT start. As a result, the 1A valve will open.
d.	(1) remains CLOSED (2) CLOSES (3) CLOSES	Incorrect - In a standby lineup, the 2A and 3A are open. A PCIS group 3 signal was received and both trains of SBGT start. As a result, the 1A valve will open.

Static Simulator Exams: None

Last Revised: 2/5/2013 10:19:18 AM by BLS

## **Question #12**

Vermont Yankee LOR Exam Bank Question Number NEW Revision 0

System: 295025

Instructor Guide:

Objectives:

References: EOP Study guide, Section 6, pg 49 of 51

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 1

Question Level: Fundamental Knowledge

Task Associations

Task Number	Task Title
2000200501	Respond to Containment Isolations

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295025	EA2.05	Ability to determine and/or interpret the following as they apply to HIGH REACTOR PRESSURE: EA2.05 Decay heat generation.	3.4	

Question:

A reactor SCRAM occurs coincident with a Group 1 isolation.

Reactor pressure is 1050 psig and rising.

No Operator action is performed.

During the next hour, and IAW the EOP study guide, the rate of automatic SRV actuations will \_\_\_\_ (1) \_\_\_\_ as Decay Heat \_\_\_\_ (2) \_\_\_\_.

	Answer/Distractor	Justification
a.	(1) rise (2) rises	Incorrect - DH lowers following a scram.
b.	(1) rise (2) lowers	Incorrect - As DH lowers SRV cycling will decrease.
c.	(1) lower (2) rises	Incorrect - DH lowers following a scram.
d.	(1) lower (2) lowers	Correct. As DH lowers SRV cycling will decrease.

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Static Simulator Exams: None

Last Revised: 2-4-13, KM

## **Question #13**

Vermont Yankee LOR Exam Bank Question Number New Revision 0

System: 295026

Instructor Guide: LOT-O

Objectives:

References: EOP Study Guide, Section 8, pg 23 of 43

Reference Open/Closed: Closed

SRO Only: No      Style: Multiple Choice      Category:

Point Value: 1      Time to Complete (Minutes): 1

Question Level: Comprehension

### Task Associations

Task Number	Task Title
2000190501	Respond to High Torus Water Temperature

### Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295026	EK2.02	Knowledge of the interrelations between SUPPRESSION POOL HIGH WATER TEMPERATURE and the following: EK2.02 Suppression pool spray: Plant-Specific	3.6	

### Question:

A seismic event has caused the following plant conditions:

- Reactor SCRAM signal on a GP I isolation
- SRVs are being used to control reactor pressure
- SRV 'C' is partially stuck open and the STA has indications it has broken a tailpipe
- DW pressure is 10 psig up slow
- Torus pressure is 12 psig up fast
- Torus temperature is 100° F up slow

IAW EOP study guide, which of the following methods will be most effective in controlling **TORUS** pressure as torus temperature rises and why?

	Answer/Distractor	Justification
	Torus spray due to the convective cooling.	Correct – Torus sprays will continue to be effective as torus temperature rises due to the convective cooling of the spray.
b.	Drywell spray due to the evaporative cooling.	Incorrect – Evaporative cooling is only present in a dry, hot environment. This is a saturated environment.
c.	Torus cooling due to the convective cooling.	Incorrect – Torus cooling will work to control torus temperature but will have little effect on torus pressure.
d.	Drywell spray due to the convective cooling.	Incorrect – Drywell spray will not be the most effective controlling torus pressure.

Static Simulator Exams: None

Last Revised: 02-01-2013 by BLS

## **Question #14**

### **Vermont Yankee LOI Exam Bank Question Number 3222 Revision 1**

**Instructor Guide:** LOT-00-622 OE OVERVIEW

**Objectives:** 8

**References:** Provide Graph of Minimum Indicated Level -RPS/ECCS/Transients from EOP-1

EOP-1 and EOP-3

Minimum Indicated Level -RPS/ECCS/Transients

EOP Study Guide Sect 13, pg 47

DP 0166 (Rev. 25) Pg. 7

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**Reference Open/Closed:** Open

**SRO Only:** No **Style:** Multiple Choice

**Point Value:** 1 **Time to Complete (Minutes):** 4

**Question Level:** Analysis

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2000210501	Respond to High Drywell Temperature

#### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
295028	EK1.01	Knowledge of the operational implications of the following concepts as they apply to HIGH DRYWELL TEMPERATURE: (CFR 41.8 to 41.10): Reactor water level measurement	3.5	3.7

#### **Question:**

A LOCA has occurred and the following conditions exist:

- All control rods have inserted
- Recirc Pumps have tripped
- RPV Emergency Depressurization has just been commenced
- Drywell pressure is 5.3 psig
- RPV pressure is 700 psig and lowering
- Reference Leg Temperatures are reading 300° F

IAW EOP-3, Primary Containment Control and DP 0166, Operations Department Standards, which of the following is the most accurate RPV level indication for the CURRENT conditions?

	<b>Answer/Distractor</b>	<b>Justification</b>
a.	+ 78 inches on ECCS Level Indicator LI-2-	Incorrect -Based on the Minimum

	3-72A on CRP 9-5.	Indicated Level for RPS/ECCS/Transients curve. The minimum indicated level for the ECCS instruments with the Reference Leg at 300°F is greater than 81. Since the indicated ECCS level is 78" this level indicator cannot be used.
b.	+ 79 inches on RPS Level Indicator LI-2-3-57B on CRP 9-5.	Incorrect -Based on the Minimum Indicated Level for RPS/ECCS/Transients curve. The minimum indicated level for the RPS instruments with the Reference Leg at 300°F is greater than 81. Since the indicated RPS level is 79", this level indicator cannot be used.
c.	+7 inches on ERFIS point WIDEM071, Compensated Rx Level Wide 70.	Correct -DP 0166 (page 7) states: "During rapid reactor de pressurization transients, the narrow range (NR) RPV level instruments may indicate high or off scale. Because they are compensated, both Shroud and Wide Range level indications should be monitored.
d.	+76 inches on Transient Level Indicator LR-2-3-68 on CRP 9-3.	Incorrect – Transient level indicator LR-2-3-68 on CRP 9-3 is not calibrated and will read > than actual level as the RPV is depressurized.

Static Simulator Exams: None

Last Revised: 2-4-13 by Stewart, Brian



## **Question #15**

Vermont Yankee LOI Exam Bank Question Number 7553 Revision 2

Instructor Guide: LOT-00-223 PRIMARY CONTAINMENT DESIGN

Objectives: A2.11

References: EOP study guide, Section 8, pg 32

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Comprehension

Task Associations

Task Number	Task Title
2000240501	Respond to Low Torus Water Level

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295030	EK2.07	Knowledge of the interrelations between LOW SUPPRESSION POOL WATER LEVEL and the following: (CFR 41.7, 45.8): Downcomer/horizontal vent submergence	3.5	3.8

Question:

Given the following:

- Suppression Pool level is lowering due to a leak in the torus.
- The Reactor is shutdown in accordance with EOP-1, RPV Control.

IAW the EOP study guide, when the Suppression Pool level drops below 6.8 feet, which ONE of the following would occur?

	Answer/Distractor	Justification
a.	The SRV tailpipes become uncovered and Drywell to torus differential pressure rises.	Incorrect - The SRV tailpipes become uncovered at 5.5 feet torus level.
b.	The SRV tailpipes become uncovered and Drywell to torus differential pressure lowers.	Incorrect - The SRV tailpipes become uncovered at 5.5 feet torus level.
c.	The downcomer pipes become uncovered and Drywell to torus differential pressure rises.	Incorrect - Once seven feet is reached, the Differential pressure equalizes and will not rise.

d.	The downcomer pipes become uncovered and Drywell to torus differential pressure lowers.	Correct Response- At seven feet in the SC, the downcomer vent pipe uncovers causing differential pressure to equalize.
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Static Simulator Exams: None

Last Revised: 1-29-13 by Stewart, Brian

## **Question #16**

### **Vermont Yankee LOI Exam Bank Question Number 7312 Revision 1**

**Instructor Guide:** LOT-00-610 EOP-1, RPV CONTROL; EOP-2, ATWAS RPV CONTROL

**Objectives:** 2.4.18

**References:** EOP study guide, section 7

**Reference Open/Closed:** Closed

**SRO Only:** No **Style:** Multiple Choice

**Point Value:** 1 **Time to Complete (Minutes):** 1

**Question Level:** Fundamental Knowledge/Memory

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2000200501	Respond to ATWS Event(s)

#### **Knowledge and Abilities Associations**

System	K/A No.	Statement	RO	SRO
295031	EA2.02	Ability to determine and/or interpret the following as they apply to REACTOR LOW WATER LEVEL : EA2.02 Reactor power	4.0	

#### **Question:**

A Group1 isolation initiated a reactor SCRAM.

There was no control rod movement.

A high power ATWS condition exists.

The CRS has entered EOP-2, ATWS RPV Control.

RPV pressure: 1100 psig

RPV water level: 165 inches

Reactor power: 35%

IAW the EOP study guide for EOP-2, which ONE of the following is the most effective method of preventing or suppressing core instabilities during this event and why?

	<b>Answer/Distractor</b>	<b>Justification</b>
a.	RPV water level reduction to 90 inches to raise inlet subcooling.	Incorrect – inlet subcooling is reduced.
b.	RPV water level reduction to 90 inches to reduce inlet subcooling.	Correct Response – Water level reduction below FW sparger eliminates high core inlet subcooling reducing initiation and growth of oscillations.

c.	RPV pressure reduction below 1055 psig to raise inlet subcooling.	Incorrect – Pressure reduction to <1055 psig is not the strategy for power reduction.
d.	RPV pressure reduction below 1055 psig to reduce inlet subcooling.	Incorrect – Pressure reduction to <1055 psig is not the strategy for power reduction.

Static Simulator Exams: None

Last Revised: 1-29-13 by BLS

## **Question #17**

### **Vermont Yankee LOR Exam Bank Question Number NEW Revision 0**

**System:** 295037

**Instructor Guide:**

**Objectives:**

**References:** EOP Study Guide, Section 7, pg 6 of 79

**Reference Open/Closed:** Closed

**SRO Only:** No      **Style:**      **Category:**

**Point Value:**      **Time to Complete (Minutes):** 1

**Question Level:** Fundamental Knowledge

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2000200501	Respond to ATWS Event(s)

#### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
295037	2.4.18	Knowledge of the specific bases for EOPs.	3.3	

#### **Question:**

Given the following plant conditions:

- An ATWS has occurred
- The MSIVs are currently OPEN
- The CRS is ordering actions IAW EOP-2, ATWS RPV Control

IAW the EOP study guide, which ONE of the following is the correct bases for the CRS orders?

	<b>Answer/Distractor</b>	<b>Justification</b>
	Inhibit ADS – Prevent ADS System actuation during intentional RPV level lowering and possible subsequent injection of cold, un-borated water.	Correct -
b.	Inhibit ADS – To allow time for boron injection to shutdown the reactor before allowing system actuation as a later EOP strategy.	Incorrect - We do not allow ADS system actuation during an ATWS to prevent a thermal transient on the RPV or reactivity transient on the core due to cold water

		injection.
c.	Implement OE 3107, Appendix P – Maintain MSIVs OPEN by bypassing the high steam flows that occur during an ATWS.	Incorrect - The MSIV isolation that is bypassed is for RPV low water level to allow terminate and prevent actions later.
d.	Implement OE 3107, Appendix P – Maintain MSIVs OPEN to provide for ATWS generated fission product scrubbing in the main condenser and filtering in AOG.	Incorrect - The main condenser is maintained available as a heat sink to protect primary containment.

Static Simulator Exams: None

Last Revised: 2-4-13, BLS

## **Question # 18**

Vermont Yankee LOR Exam Bank Question Number NEW Revision 0

System: 295038

Instructor Guide:

Objectives:

References: OP 0105, pg 49

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 1

Question Level: Analysis

### Task Associations

Task Number	Task Title
2000610504	Respond to Excessive Radiation Levels

### Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295038	EK3.02	Knowledge of the reasons for the following responses as they apply to HIGH OFF-SITE RELEASE RATE: EK3.02 System isolations.	3.9	

### Question:

With a reactor startup in progress, IAW OP 0105, Reactor Operations, the operation of the mechanical vacuum pump (hogger) is allowed only under which ONE of the following conditions and for what reason?

The hogger may only be operated at \_\_\_\_ (1) \_\_\_\_ with the \_\_\_\_ (2) \_\_\_\_ because the discharge piping is \_\_\_\_ (3) \_\_\_\_.

	Answer/Distractor	Justification
	(1) <4% reactor power (2) mode switch out of RUN (3) only through a 2 minute delay pipe	Correct – To operate below the system isolation setpoint and minimize rad release through the short delay pipe.
b.	(1) <4% reactor power (2) mode switch out of RUN (3) not rated for Hydrogen ignitions	Incorrect – The discharge piping is rated for hydrogen ignitions.
c.	(1) <1.5 times normal full power	Incorrect – The discharge piping is rated

	background rads (2) hogger suction valve throttled (3) only through a 2 minute delay pipe	for hydrogen ignitions. 1.5 times NFPB is the system isolation. The Hugger suction valve is only throttled to minimize rad releases.
d.	(1) <1.5 times normal full power background rads (2) hogger suction valve throttled (3) not rated for Hydrogen ignitions	Incorrect – The discharge piping is rated for hydrogen ignitions. 1.5 times NFPB is the system isolation. The Hugger suction valve is only throttled to minimize rad releases.

Static Simulator Exams: None

Last Revised: 2-11-13, BLS



## **Question #19**

**Vermont Yankee LOI Exam Bank Question Number 5728 Revision 1**

**VY bank major revision**

**Instructor Guide:** LOT-00-286 FIRE PROTECTION SYSTEM

**Objectives:** K5.03

**References:** OP 2186 Section Z CAUTION

**Reference Open/Closed:** Closed

**SRO Only:** No **Style:** Multiple Choice

**Point Value:** 1 **Time to Complete (Minutes):** 1

**Question Level:** Comprehension

**Task Associations**

<b><u>Task Number</u></b>	<b><u>Task Title</u></b>
2867290401	Respond to Pyrotronics Panel Alarms

**Knowledge and Abilities Associations**

<b><u>System</u></b>	<b><u>K/A No.</u></b>	<b><u>Statement</u></b>	<b><u>RO</u></b>	<b><u>SRO</u></b>
600000	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	2.8	3.4

**Question:**

An electrical fire is burning in MCC-89A.

The fire brigade wants to use water to fight the fire in MCC-89A.

IAW OP 2186, Fire Suppression Systems, the MCC-89A \_\_\_\_ (1) \_\_\_\_ be de-energized \_\_\_\_ (2) \_\_\_\_.

	<b><u>Answer/Distractor</u></b>	<b><u>Justification</u></b>
a.	1. MUST 2. to prevent spurious operation of 'B' loop RHR injection valves and recirc loop isolation valves.	Incorrect - Electrical equipment involved in, or in the vicinity of a fire, should be de energized if possible, and only when so directed by the Shift Manager.
b.	1. MUST 2. to avoid electric shock hazard to the fire brigade members.	Incorrect - Electrical equipment involved in, or in the vicinity of a fire, should be de energized if possible, and only when so directed by the Shift Manager.
c.	1. SHOULD 2. to prevent spurious operation of 'B' loop RHR injection valves and recirc loop	Incorrect - Electrical equipment involved in, or in the vicinity of a fire, should be de energized if possible, and only when so

	isolation valves.	directed by the Shift Manager.
d.	1. SHOULD 2. to avoid electric shock hazard to the fire brigade members.	Correct Response- Electrical equipment involved in, or in the vicinity of a fire, should be de energized if possible, and only when so directed by the Shift Manager.

Static Simulator Exams: None

Last Revised: 2-4-13 by Stewart, Brian

## **Question #20**

### **Vermont Yankee LOR Exam Bank Question Number NEW Revision 0**

System: 700000

Instructor Guide:

Objectives:

References: ARS 8-J-9, Safety Bus Volt. LO

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 1

Question Level: Comprehension

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2627450401	Respond to Safety Bus Voltage Alarm

#### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
700000	AA1.01	Ability to operate and/or monitor the following as they apply to GENERATOR VOLTAGE AND ELECTRIC GRID DISTURBANCES: AA1.01 Grid frequency and voltage.	3.6	

#### **Question:**

A significant storm in the area has caused an electrical grid disturbance.  
The following plant conditions exist:

- Reactor power is 100%
- Unit Auxiliary Transformer is in service
- SAFETY BUS VOLTAGE LO (8-J-9) is alarming
- Bus 3 voltage = 2600 volts
- Bus 4 voltage = 2400 volts
- All other plant systems are operating normally

IAW ARS 8-J-9, SAFETY BUS VOLTAGE LO, predict the status of the 'A' and 'B' EDG.

	<b>Answer/Distractor</b>	<b>Justification</b>
a.	Both 'A' and 'B' EDGs operating powering their respective buses.	Incorrect - <2900 volts on s/u transformers would make this correct, plausible.
	Both 'A' and 'B' EDGs secured in a standby lineup.	Correct – No ECCS signal exists. LNP signal at <1925 volts.
c.	'A' EDG operating powering its bus.	Incorrect – balanced answer.

	'B' EDG secured in a standby lineup.	
d.	'A' EDG secured in a standby lineup. 'B' EDG operating powering its bus.	Incorrect – balanced answer.

Static Simulator Exams: None

Last Revised: 2-11-13, KM

## **Question #21**

### **Vermont Yankee LOI Exam Bank Question Number 7316 Revision 6**

**Instructor Guide:** LOT-00-206 HIGH PRESSURE COOLANT INJECTION

**Objectives:** A1

**References:** OP 2120; The operator must integrate that a HPCI start signal is not currently present but that a HPCI high level trip is in and has not been reset.

**Reference Open/Closed:** Closed

**SRO Only:** No **Style:** Multiple Choice

**Point Value:** 1 **Time to Complete (Minutes):** 1

**Question Level:** Comprehension

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2067100401	Maintain Reactor Water Level with HPCI

#### **Knowledge and Abilities Associations**

System	K/A No.	Statement	RO	SRO
295008	AK2.05	Knowledge of the interrelations between HIGH REACTOR WATER LEVEL and the following: AK2.05 HPCI: Plant-Specific	3.8	

#### **Question:**

Given the following plant conditions:

- The mode switch is in SHUTDOWN following a turbine trip on high reactor water level
- Reactor water level +130 inches and slowly lowering
- Drywell pressure is 1.9 psig and rising
- The white light 'HPCI System Ready' is OFF

For the above conditions, state the response of the HPCI system without operator action.

	Answer/Distractor	Justification
a.	WILL initiate on ONLY the high Drywell pressure signal.	Incorrect - Turbine trip at 177" will auto reset at 82.5" OR it can be manually reset using the CRP 9-3 trip reset pushbutton.
b.	WILL initiate on ONLY the low-low Reactor water level signal.	Correct - Turbine trip at 177" will auto reset at 82.5".
c.	Automatically initiate on ONLY the high Drywell pressure signal.	Incorrect - It can be manually reset using the CRP 9-3 trip reset pushbutton but with no operator action the Hi DW pressure

		signal is blocked.
d.	WILL NOT initiate on low-low Reactor level OR high Drywell pressure signals.	Incorrect - With no operator action the Hi DW pressure signal is blocked. Turbine trip at 177" will auto reset at 82.5".

Static Simulator Exams: None

Last Revised: 1-29-13 by BLS

## **Question #22**

Vermont Yankee LOI Exam Bank Question Number 1390 Revision 3

Instructor Guide: LOT-00-202 REACTOR RECIRCULATION SYSTEM

Objectives: 7

References: OP 2110, Pg 5

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 2

Question Level: Fundamental Knowledge/Memory

Task Associations

**Task Number Task Title**

2020020101 Adjust the Recirculation System Flow Using Individual Manual Control

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295009	AK1.02	Knowledge of the operational implications of the following concepts as they apply to LOW REACTOR WATER LEVEL : AK1.02 Recirculation pump net positive suction head: Plant- Specific	3.0	

Question:

With the plant at 80% power a total loss of feedflow occurs.

As feed flow starts to drop the Reactor Recirculation pumps runback to minimum speed.

IAW OP-2110, Reactor Recirculation System, the reason for this runback is to accomplish which ONE of the following?

	Answer/Distractor	Justification
a.	Minimize stress on CRD stub tubes and incore housing welds.	Incorrect - Stress is caused when starting an idle pump.
b.	Minimize flow induced vibration of LPRMs and TIP tubes.	Incorrect - Vibration occurs under high flows during refueling outages.
c.	Prevent cavitation of the recirculation pumps.	Correct - The feed flow runback is to ensure recirc pump NPSH at reduced feed conditions.
d.	Prevent exceeding core thermal limits.	Incorrect - Thermal limits are protected through the use of scrams.

Static Simulator Exams: None  
Last Revised: 1-29-13 by BLS



## **Question #23**

### **Vermont Yankee LOR Exam Bank Question Number New Revision 0**

System: 295014

Instructor Guide:

Objectives:

References: OT 3110

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 1

Question Level: Fundamental Knowledge

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2000180501	Respond to High Reactor Pressure

#### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
295014	AK1.02	Knowledge of the operational implications of the following concepts as they apply to INADVERTENT REACTIVITY ADDITION : AK1.02 Reactivity anomaly	3.3	

#### **Question:**

While raising reactor power from 97% CTP to 100% following a rod pattern adjustment the RO observes the recirc master controller output rising without operator action.

IAW OT 3110, Inadvertent Reactivity Addition, which ONE of the following is the required immediate operator action?

	<b>Answer/Distractor</b>	<b>Justification</b>
	Place both individual recirc controllers to manual.	Correct – OT 3110 operator immediate actions state that the operator should take the individual recirc controllers to manual which should stop the power rise by disconnecting the master from the individual controllers.
b.	Reduce the master controller setpoint to below pre-transient level.	Incorrect: This is a later follow-up step for other reactivity anomalies.
c.	Insert control rods using reverse order of the rapid shutdown sequence.	Incorrect: This would be used if the crew found themselves in a variety of other reactivity anomalies or greater than the

		MELLLA limits.
d.	Lockup the recirc scoop tubes before reactor power exceeds 100%.	Incorrect: Scoop tube lockup IAW OP 2110 is and has been used for controller malfunctions at VY but typically only after I&C troubleshooting.

Static Simulator Exams: None

Last Revised: 2-5-13, KM

## **Question # 24**

### **Vermont Yankee LOR Exam Bank Question Number New Revision 0**

System: 295015

Instructor Guide:

Objectives:

References:

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 2

Question Level: Analysis

#### Task Associations

Task Number	Task Title
2000200501	Respond to ATWS Event(s)

#### Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295015	AA2.01	Ability to determine and/or interpret the following as they apply to INCOMPLETE SCRAM : AA2.01 Reactor power	4.1	

#### Question:

The plant was operating at 100% power.

- An ATWS has occurred coincident with a loss of MCC-8A
- Annunciator APRM BUS A/B ALT Power Source (5-M-5) is NOT lit
- RPV pressure is 920# controlled using TBV's
- RPV water level is 133 inches
- ARI/RPT was initiated, scram air header is depressurized but all rods are not inserted

What indications are available to determine reactor power?

Answer/Distractor	Justification
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a.	APRM 'E' and turbine first stage pressure.	Incorrect - APRM not powered, 1 <sup>st</sup> stage pressure reads zero with the turbine tripped.
b.	APRM 'E' and MSL 'A' flow.	Incorrect - APRM E has no power.
c.	APRM 'B' and turbine first stage pressure.	Incorrect - 1 <sup>st</sup> stage pressure reads zero with the turbine tripped.
	APRM 'B' and MSL 'A' flow.	Correct.

Static Simulator Exams: none

Last Revised: 2-4-13, KM

## **Question #25**

Vermont Yankee LOR Exam Bank Question Number New Revision 0

System: 295020

Instructor Guide:

Objectives:

References: OP 2113

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 1

Question Level: Fundamental Knowledge

Task Associations

Task Number	Task Title
2000170501	Respond to Containment Isolations

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295020	AK1.01	Knowledge of the operational implications of the following concepts as they apply to INADVERTENT CONTAINMENT ISOLATION : AK1.01 Loss of normal heat sink	3.7	

Question:

Following a Reactor SCRAM and inadvertent Group 1 isolation, the CRS directs the BOP to reopen the MSIVs IAW OP 2113, Main Steam Operating Procedure.

IAW OP 2113, the \_\_\_(1)\_\_\_ MSIVs are opened first.

After equalizing upstream and downstream pressures then, if the bypass valves OPEN, \_\_\_(2)\_\_\_ the setpoint of the turbine pressure regulators in service until the bypass valves are shut.

	Answer/Distractor	Justification
a.	(1) INBD (2) RAISE	Incorrect – OUTBD MSIVs opened first IAW OP 2113, pg 8.
b.	(1) INBD (2) LOWER	Incorrect – OUTBD MSIVs opened first IAW OP 2113, pg 8.
	(1) OUTBD (2) RAISE	Correct.
d.	(1) OUTBD (2) LOWER	Incorrect – Setpoint must be raised to close the TBVs.

Static Simulator Exams: None

Last Revised: 2-5-13, KM

## **Question # 26**

### **Vermont Yankee LOR Exam Bank Question Number New Revision 0**

System: 295032

Instructor Guide:

Objectives:

References: OP 2115

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 1

Question Level: Comprehension

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2000170501	Respond to Containment Isolations

#### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
295032	EK2.04	Knowledge of the interrelations between HIGH SECONDARY CONTAINMENT AREA TEMPERATURE and the following: EK2.04 PCIS/NSSSS	3.6	

#### **Question:**

The plant is operating at 100%

The following alarms are received:

5-H-3 STM TUNNEL TEMP CH A HI

5-J-3 STM TUNNEL TEMP CH B HI

Steam leak detection on CRP 9-21 confirms temperatures in the steam tunnel equal to 201 °F and rising.

Which ONE of the following predicts the status of PCIS Group 1 and Group 6 isolation signals IAW OP 2115, Primary Containment?

	Answer/Distractor	Justification
a.	Both Group 1 and Group 6 isolation signals will actuate immediately.	Incorrect - PCIS Group 6 has a 35 minute time delay.
b.	Both Group 1 and Group 6 isolation signals will actuate in 35 minutes.	Incorrect - PCIS Group 1 has no 35 minute time delay.
	ONLY PCIS Group 1 isolation signal will actuate immediately.	Correct.
d.	ONLY PCIS Group 6 isolation signal will actuate immediately.	Incorrect - PCIS Group 6 has a 35 minute time delay.

Static Simulator Exams: None

Last Revised: 2-4-13, KM



## **Question #27**

**Vermont Yankee LOI Exam Bank Question Number 5731 Revision 5**

**Instructor Guide:** LOT-01-223 PRIMARY CONTAINMENT ISOLATION SYSTEM (PCIS)

**Objectives:** K10, K11

**References:** OPOP-SGT-2117, page 3 and ARS 5-H-1

**Reference Open/Closed:** Closed

**SRO Only:** No **Style:** Multiple Choice

**Point Value:** 1 **Time to Complete (Minutes):** 1

**Question Level:** Comprehension

**Task Associations**

Task Number	Task Title
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2737060101	Respond to Automatic Actions from Local Monitors
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**Knowledge and Abilities Associations**

System	K/A No.	Statement	RO	SRO
295034	EA1.02	Ability to operate and/or monitor the following as they apply to SECONDARY CONTAINMENT VENTILATION HIGH RADIATION: (CFR 41.7 , 45.6): Process radiation monitoring system	3.9	4.0

**Question:**

Reactor Building Ventilation Exhaust radiation monitor 'A' is bypassed by I&C for testing and is downscale.

The 'B' Reactor Building ventilation radiation monitor reading rises to 20 mR/hr.

Which ONE of the following describes the required operator response IAW OPOP-SGT-2117, Standby Gas Treatment, if any?

	Answer/Distractor	Justification
a.	There should be no operator response since there is no trip. Both channels are required for input.	Incorrect - This is a logical action if the student does not understand system operation during I&C testing.
b.	Confirm PCIS Group 3 isolations and SBGT system startup.	Correct Response - Student must know that I&C keylocks only bypass upscale trips. Two downscale on RB vent exhaust is an isolation signal or one upscale is an isolation. Only one key lock bypass is allowed in bypass at any time. RB

		ventilation will trip and isolate and SBTG will start.
c.	Manually secure RB ventilation, isolate HVAC-9 / 10 / 11 / 12 and start SBTG.	Incorrect - This is a logical action if the student does not understand system operation during I&C testing.
d.	Verify a half Group 3 isolation and no SBTG automatic start.	Incorrect - This is a logical action if the student does not understand system operation during I&C testing.

Static Simulator Exams: None  
Last Revised: 1-29-13 by BLS

## **Question #28**

Vermont Yankee LOI Exam Bank Question Number 3553 Revision 1

Instructor Guide: LOT-00-218 AUTOMATIC DEPRESSURIZATION SYSTEM

Objectives: K1.01

References: OP 2122 Discussion ARS 3-A-7

Justification: ADS permissive RHR/CS running (ARS 3-A-7) setpoint is 100 psig using pump discharge pressure switches only.

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 2

Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
2187030101	Replace Automatic Blowdown System in Standby Following ADS Initiation

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
203000	K1.06	Knowledge of the physical connections and/or causeeffect relationships between RHR/LPCI: INJECTION MODE (PLANT SPECIFIC) and the following: K1.06 Automatic depressurization	3.9	

Question:

IAW ARS 3-A-7, ADS PERMISSIVE RHR/CS RUNNING, which ONE of the following does the Automatic Depressurization System (ADS) monitor to determine the status of the running RHR pump(s)?

	Answer/Distractor	Justification
a.	RHR pump discharge pressure ONLY	Correct - ADS will initiate upon at least one RHR or core spray pump >100 psig discharge pressure and...
b.	RHR pump discharge pressure AND pump breaker contacts	Incorrect - ADS will initiate upon at least one RHR or core spray pump >100 psig discharge pressure and...
c.	RHR pump flow ONLY	Incorrect - ADS will initiate upon at least one RHR or core spray pump >100 psig discharge pressure and...
d.	RHR pump flow AND pump breaker contacts	Incorrect - ADS will initiate upon at least one RHR or core spray pump >100 psig discharge pressure and...

Static Simulator Exams: None  
Last Revised: 1-31-13 by BLS

## **Question #29**

Vermont Yankee LOI Exam Bank Question Number 7129 Revision 1

Instructor Guide: LOT-00-205 RESIDUAL HEAT REMOVAL SYSTEM

Objectives: K1.07.b, K2.02.b, K5.02.b, K6.02.b, K12.01

References: OP 2124

ON 3160

B-191301 Sheet 1300,1300A,1308

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Comprehension

Task Associations

Task Number	Task Title
2000150501	Respond to a Loss of Shutdown Cooling

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
205000	K2.02	Knowledge of electrical power supplies to the following: (CFR 41.7): Motor operated valves	2.5	2.7

Question:

The plant is shutdown with the 'A' loop of Shutdown Cooling in service.

IAW ON-3160, Loss of DC-2 and DC-3, which ONE of the following describes the reason why the plant loses Shutdown Cooling when DC-2 is lost?

	Answer/Distractor	Justification
a.	RHR-17, RHR S/D Cooling Suction Valve, closes resulting in a trip of the running RHR pump.	Incorrect- the valve does not close.
b.	RHR-18, RHR S/D Cooling Suction Valve, closes resulting in a trip of the running RHR pump.	Incorrect- the valve does not close.
c.	RHR-17, RHR S/D Cooling Suction Valve, position indication is lost resulting in a trip of the running RHR pump.	Correct - Running RHR Pump logic will see RHR-17 as closed when DC-2 is lost (loss of sensing relay).
d.	RHR-18, RHR S/D Cooling Suction Valve, position indication is lost resulting in a trip of the running RHR pump.	Incorrect - Running RHR Pump logic will see RHR-17 as closed when DC-2 is lost (loss of sensing relay).

Static Simulator Exams: None  
Last Revised: 1-31-13 by BLS

## **Question #30**

### **Vermont Yankee LOI Exam Bank Question Number New Revision 0**

**Instructor Guide:** LOT-00-206 HIGH PRESSURE COOLANT INJECTION

**Objectives:** K4.02, K4.04

**References:** OP 2120, page 4

**Reference Open/Closed:** Closed

**SRO Only:** No **Style:** Multiple Choice

**Point Value:** 1 **Time to Complete (Minutes):** 2

**Question Level:** Comprehension

#### **Task Associations**

<b><u>Task Number</u></b>	<b><u>Task Title</u></b>
2067090401	Respond to Automatic HPCI System Trip or Isolation

#### **Knowledge and Abilities Associations**

System	K/A No.	Statement	RO	SRO
206000	K4.04	Knowledge of HIGH PRESSURE COOLANT INJECTION SYSTEM design feature(s) and/or interlocks which provide for the following: (CFR 41.7): Resetting system isolations: BWR-2, 3, 4	4.0	3.9

#### **Question:**

IAW OP 2120, HPCI System, which ONE of the following HPCI isolation signal(s) will automatically reset?

	Answer/Distractor	Justification
a.	Low steam line pressure ONLY	Correct Response: This auto-isolation signal does not seal in and is >70psi
b.	High HPCI area temperature ONLY	Incorrect - HPCI area temperature will have to be manually reset
c.	BOTH low steam line pressure AND HPCI high area temperature	Incorrect - HPCI area temperature will have to be manually reset
d.	Neither low steam line pressure OR HPCI high area temperature	Incorrect - This auto-isolation signal does not seal in and is >70psi

**Static Simulator Exams:** None

**Last Revised:** 2-14-13 by KM

## **Question #31**

Vermont Yankee LOI Exam Bank Question Number 1309 Revision 5

Instructor Guide: LOT-00-607 EOP-3, PRIMARY CONTAINMENT CONTROL

Objectives: 4

References: Appendix B, BWROG-EPGs; EOP Study Guide section 8, page 34; EOP-3 Step PC/L-7

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 2

Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
2000240501	Respond to Low Torus Water Level

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
206000	K6.05	Knowledge of the effect that a loss or malfunction of the following will have on the HIGH PRESSURE COOLANT INJECTION SYSTEM : K6.05 Suppression pool level: BWR-2,3,4	3.5	

Question:

The following conditions exist:

- A transient has resulted in a leak in the reactor vessel and a leak in the Torus
- HPCI is operating, maintaining RPV level 127 to 177 inches.
- Torus water level has dropped to 7 feet and is continuing to lower

Actions IAW EOP-3, Primary Containment Control, should be to perform which ONE of the following?

Secure HPCI...

	Answer/Distractor	Justification
a.	irrespective of whether adequate core cooling is assured, due to pump cavitation concerns.	Incorrect - HPCI pump cavitation is not the concern with low torus level.
b.	immediately due to the potential to over pressurize primary containment with the HPCI exhaust.	Correct - The HPCI exhaust will be uncovered and over pressurize containment if left in service.



c.	if pump cavitation is observed due to lowering suction pressure.	Incorrect – HPCI pump cavitation is not the concern with low torus level.
d.	only when primary containment pressure rises due to the HPCI exhaust.	Incorrect – With HPCI in operation and torus level low, the exhaust will pressurize and thereby threaten primary containment.

Static Simulator Exams: None

Last Revised: 1-29-13 by BLS

## **Question #32**

Vermont Yankee LOI Exam Bank Question Number 6804 Revision 1

Instructor Guide: LOT-00-209 CORE SPRAY

Objectives: K2

References: OP 2123, Core Spray, page 3

LOT-00-209, TP5

CWD

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Analysis

Task Associations

Task Number	Task Title
2000320501	Respond to a Loss of DC-1, 2, 3

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
209001	K4.08	Knowledge of LOW PRESSURE CORE SPRAY SYSTEM design feature(s) and/or interlocks which provide for the following: K4.08 Automatic system initiation	3.8	

Question:

A transient has resulted in a reactor SCRAM and electrical fault causing a loss of Bus 4.

Degrading containment conditions has resulted in the following:

- Reactor Pressure is at 325 psig
- Drywell Pressure is at 2.8 psig

Based on the above, and IAW OP 2123 Core Spray System, predict the Core Spray system response?

	Answer/Distractor	Justification
a.	Both Core Spray pumps will start and ALL injection valves will open.	Incorrect - Loop 'A' pumps and valves have lost power.
b.	ONLY the Loop 'A' Core Spray pump will start and its injection valves will open.	Incorrect - Bus 4 provides power to 'A' loop pump and valve initiation logic. Only 'B' loop would have power.
c.	ONLY the Loop 'B' Core Spray pump will	Correct - Only Loop 'B' pumps and valves

	start and its injection valves will open.	have initiation power.
d.	No Core Spray pumps will start and NO injection valves will open.	Incorrect - Loop 'B' pumps and valves still have power.

Static Simulator Exams: None

Last Revised: 1-29-31 by BLS

## **Question #33**

### **Vermont Yankee LOI Exam Bank Question Number 481 Revision 1**

**Instructor Guide:** LOT-00-211 STANDBY LIQUID CONTROL SYSTEM

**Objectives:** K4.08, K8

**References:** P&ID G-191171

OP 2114 Appendix "B", Since one squib valve has fired in this parallel system, there is now a flow path for either pump to inject.

UFSAR< Section 3.8.3 (Rev. 17)

**Reference Open/Closed:** Closed

**SRO Only:** No **Style:** Multiple Choice

**Point Value:** 1 **Time to Complete (Minutes):** 4

**Question Level:** Comprehension

#### **Task Associations**

<b><u>Task Number</u></b>	<b><u>Task Title</u></b>
2110050101	Inject Poison Solution into the Reactor Vessel

#### **Knowledge and Abilities Associations**

<b><u>System</u></b>	<b><u>K/A No.</u></b>	<b><u>Statement</u></b>	<b><u>RO</u></b>	<b><u>SRO</u></b>
211000	K4.08	Knowledge of STANDBY LIQUID CONTROL SYSTEM design feature(s) and/or interlocks which provide for the following: (CFR 41.7): System initiation upon operation of SBLC control switch	4.2	4.2

#### **Question:**

An "Anticipated Transient Without Scram" (ATWS) has occurred.  
The CRS orders the injection of Standby Liquid Control (SLC).

- The Operator at the Controls (OATC) positions the SLC initiation switch to SYS. 1.
- The SLC-14A squib valve fires but the "A" SLC pump does not start.
- The SLC initiation switch is then positioned to SYS. 2.
- The "B" SLC pump starts, but SLC-14B does not fire.

IAW OP 2114, Operation of the Standby Liquid Control System, which ONE of the following is the SLC system flow and why?

	<b><u>Answer/Distractor</u></b>	<b><u>Justification</u></b>
a.	Zero, because the cross connect valve is closed.	Incorrect - not a normal valve lineup.
b.	Zero, because SLC-14B did not fire.	Incorrect - flow still exists through the SLC-14A squib valve.

c.	Approximately 20 gpm due to the reverse flow through the "A" SLC pump.	Incorrect - No reverse flow exists.
d.	Approximately 40 gpm because the opening of either squib valve will allow rated flow from either pump.	Correct - with a pump running and Squib valve SLC-14A(B) fired flow will be indicated by red flow indicator light on (flow greater than 30 gpm).

Static Simulator Exams: None

Last Revised: 1-29-13 by BLS

## **Question # 34**

### **Vermont Yankee LOR Exam Bank Question Number New Revision 0**

System: 211000

Instructor Guide:

Objectives:

References: OP 2114, OP 4114

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 2

Question Level: Comprehension

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2110020104	Fill the SLC Tank or Add Chemicals to the Tank

#### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
211000	2.1.32	Ability to explain and apply system limits and precautions.	3.8	

#### **Question:**

Following an addition of boron to the SLC tank:

IAW OP 2114, Standby Liquid Control System, and OP 4114, Standby Liquid Control System Surveillance, a minimum of \_\_\_\_ (1) \_\_\_\_ hours of mixing is required before sampling by the Chemistry Department.

Mixing of the SLC tank is performed by \_\_\_\_ (2) \_\_\_\_.

	Answer/Distractor	Justification
a.	(1) 4 (2) opening SLC-22, SLC tank sparger instrument air supply, ¼ turn open.	Incorrect – Too short a time for mixing.
b.	(1) 4 (2) operating SLC tank heater control in MANUAL.	Incorrect – Too short a time for mixing.
	(1) 8 (2) opening SLC-22, SLC tank sparger instrument air supply, ¼ turn open.	Correct.
d.	(1) 8 (2) operating SLC tank heater control in MANUAL.	Incorrect – SLC tank heater operation not required for mixing. Action for low tank temperature alarm (5-A-4).

Static Simulator Exams:

Last Revised: 2-5-13, BLS

## **Question # 35**

Vermont Yankee LOR Exam Bank Question Number New Revision 0

System: 212000

Instructor Guide:

Objectives:

References: OPOP-ALTSD-3126

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 2

Question Level: Fundamental Knowledge

### Task Associations

<u>Task Number</u>	<u>Task Title</u>
2007170501	Perform Shutdown from Outside the Control Room

### Knowledge and Abilities Associations

<u>System</u>	<u>K/A No.</u>	<u>Statement</u>	<u>RO</u>	<u>SRO</u>
212000	2.4.34	Knowledge of RO tasks performed outside the main control room during an emergency and the resultant operational effects.	4.2	

### Question:

During a fire in the Control Room, the control room operators have exited the Control Room.

The SM directs Operator #3 to SCRAM the reactor from outside the Control Room.

IAW OPOP-ALTSD-3126, Shutdown Using Alternate Shutdown Methods, what actions are required to perform this task?



	Answer/Distractor	Justification
a.	Trip both RPS MG supply breakers.	Incorrect – Not required by OP 3126. Plausible method to remove power to RPS.
b.	Remove RPS supply fuses to HCU's (RB-252 ft).	Incorrect – Not required by OP 3126. Plausible method to remove power to RPS.
c.	Vent the overpiston volume for any HCU with control rod position NOT at 00.	Incorrect – Not required by OP 3126. Plausible action IAW OE 3107 Appendix H.
	Vent the scram air header.	Correct – OP 3126 Attachment 3 Step 1 for Operation #3, an RO.

Static Simulator Exams: None

Last Revised: 2-4-13, KM

## **Question #36**

### **Vermont Yankee LOI Exam Bank Question Number 668 Revision 1**

**Instructor Guide:** LOT-02-215 INTERMEDIATE RANGE MONITORS (IRM)

**Objectives:** K1.06, K 4.02

**References:** CWD 789, 804, 805; OP-2131, IRM Channels, pg 1, The downscale rod block is bypassed with the IRM on range 1 or the mode switch in Run. Other RB's are bypassed by the M/S in Run.

**Reference Open/Closed:** Closed

**SRO Only:** No **Style:** Multiple Choice

**Point Value:** 1 **Time to Complete (Minutes):** 3

**Question Level:** Comprehension

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2150230101	Operate the Neutron Monitoring System

#### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
215003	A3.04	Ability to monitor automatic operations of the INTERMEDIATE RANGE MONITOR (IRM) SYSTEM including: A3.04 Control rod block status	3.5	

#### **Question:**

During a normal reactor shutdown, IRM (Intermediate Range Monitor) Channel "C" is indicating 30 on Range 6 and steady.

An inadvertent range down to Range 4 occurs.

IAW OP-2131, IRM Channels, which ONE of the following describes the plant response to this action?

	<b>Answer/Distractor</b>	<b>Justification</b>
a.	An IRM downscale alarm is received ONLY. IRM rod blocks are bypassed on this range.	Incorrect - half scram also occurs. This is NOT a downscale condition.
b.	An IRM upscale alarm and rod block ONLY are received.	Incorrect - half scram also occurs. This is NOT a downscale condition.
c.	An IRM rod block AND half-scram on RPS Channel "A" are received.	Correct - Ranging down two ranges will result in a 120/125 scale half scram on RPS channel "A" (IRM Hi-Hi) and a rod block (IRM Hi).

d.	An IRM rod block AND half-scam on RPS Channel "B" are received.	Incorrect - Ranging down two ranges will result in a 120/125 scale half scam on RPS channel "A" (IRM Hi-Hi) and a rod block (IRM Hi).
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Static Simulator Exams: None

Last Revised: 1-29-13 by BLS

## **Question #37**

Vermont Yankee LOI Exam Bank Question Number 292 Revision 5

Instructor Guide: LOT-01-215 SOURCE RANGE MONITORS (SRM)

Objectives: K 4.01, K4.04, K5.03

References: OP 2130, page 3

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 2

Question Level: Analysis

Task Associations

Task Number	Task Title
2157170401	Respond to SRM System Alarms

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
215004	K5.03	Knowledge of the operational implications of the following concepts as they apply to SOURCE RANGE MONITOR (SRM) SYSTEM: (CFR 41.5 / 45.3): Changing detector position	2.8	2.8

Question:

Given the following conditions:

- Reactor is subcritical
- Operations is performing control rod withdrawals for a reactor startup
- Reactor power is 75 counts per second (CPS) in the source range
- SRM Channel 'A' select switch light is illuminated on CRP 9-5 benchboard
- The Operator at the Controls (OATC) depresses and holds the DRIVE OUT pushbutton

IAW OP-2130, SRM Channels, which ONE of the following describes the plant response?

	Answer/Distractor	Justification
a.	The 'A' SRM detector will NOT withdraw due to the current power level.	Incorrect - Any SRM channel will generate a rod block if one of the following conditions exist: 1. Any SRM downscale (3 cps) or any SRM detector not fully inserted and the level indicator for that channel drops below 100 cps. (With all IRM range switches at position 3 or higher, these rod blocks are bypassed

		automatically.) 2. SRM count greater than the high setpoint unless the IRM range switches are on Range 8 or above. 3. SRM Inoperable.
b.	The 'A' SRM detector will NOT withdraw and the SRM RETRACT NOT PERMITTED alarm will be received.	Incorrect - Any SRM channel will generate a rod block if one of the following conditions exist: 1. Any SRM downscale (3 cps) or any SRM detector not fully inserted and the level indicator for that channel drops below 100 cps. (With all IRM range switches at position 3 or higher, these rod blocks are bypassed automatically.) 2. SRM count greater than the high setpoint unless the IRM range switches are on Range 8 or above. 3. SRM Inoperable.
c.	The 'A' SRM detector will withdraw and a ROD WITHDRAW BLOCK will be generated.	Correct - Any SRM channel will generate a rod block if one of the following conditions exist: 1. Any SRM downscale (3 cps) or any SRM detector not fully inserted and the level indicator for that channel drops below 100 cps. (With all IRM range switches at position 3 or higher, these rod blocks are bypassed automatically.) 2. SRM count greater than the high setpoint unless the IRM range switches are on Range 8 or above. 3. SRM Inoperable.
d.	The 'A' SRM detector will withdraw until SRM DOWNSCALE annunciator is received and then stop.	Incorrect - Any SRM channel will generate a rod block if one of the following conditions exist: 1. Any SRM downscale (3 cps) or any SRM detector not fully inserted and the level indicator for that channel drops below 100 cps. (With all IRM range switches at position 3 or higher, these rod blocks are bypassed automatically.) 2. SRM count greater than the high setpoint unless the IRM range switches are on Range 8 or above. 3. SRM Inoperable.

Static Simulator Exams: None

Last Revised: 1-29-13 by BLS

## **Question #38**

Vermont Yankee LOI Exam Bank Question Number 3154 Revision 2

Instructor Guide: LOT-01-215 SOURCE RANGE MONITORS (SRM)

Objectives: CRO 3,7

References: OP 2130 pg 3

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 2

Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
2150230101	Operate the Neutron Monitoring System

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
215004	A3.04	Ability to monitor automatic operations of the SOURCE RANGE MONITOR (SRM) SYSTEM including: A3.04 control rod block status	3.6	

Question:

A reactor startup is in progress with the mode switch in START and HOT/STBY.

With SRM 'A' reading downscale, which of the following conditions will generate a rod block IAW OP 2130, SRM System?

	Answer/Distractor	Justification
a.	SRMs are not fully inserted, all SRMs but 'A' read 300-400 cps, and all IRMs are on range 4 or 5.	Incorrect -The SRM downscale rod block for SRM 'A' is bypassed for this condition because the IRMs are on range 3 or above with IRM's > range 4 then the detector not full in is bypassed.
b.	SRMs are fully inserted, all SRMs but 'A' read 300-400 cps, and all IRMs are on range 1.	Correct.
c.	SRMs are not fully withdrawn, SRM 'A' is bypassed, all other SRMs read between $5 \times 10^4$ and $2 \times 10^5$ cps, and all IRMs are on range 8.	Incorrect -All SRM rod blocks are bypassed when the IRMs are on range 8 or above.
d.	SRMs are not fully inserted, SRM 'A' is bypassed, all other SRMs read 300-400 cps, and all IRMs are on range 1.	Incorrect -The SRM not full in rod block is bypassed when the SRMs are reading greater than 100 CPS.

Static Simulator Exams: None

Last Revised: 1-29-13 by BLS

## **Question #39**

Vermont Yankee LOI Exam Bank Question Number 3892 Revision 1

Instructor Guide: LOT-05-215 AVERAGE POWER RANGE MONITOR (APRM)

Objectives: CRO 2d, 5

References: LOT-05-215, Rev 13

ARS 5-M-5

Tech. Spec. LSSS 2.1.A.1

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 2

Question Level: Analysis

### Task Associations

Task Number	Task Title
2150230101	Operate the Neutron Monitoring System
2157150401	Respond to APRM System Alarms

### Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
215005	A2.05	Ability to (a) predict the impacts of the following on the AVERAGE POWER RANGE MONITOR/LOCAL POWER RANGE MONITOR SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: A2.05 Loss of recirculation flow signal	3.5	

### Question:

Given the following conditions:

- A plant startup is in progress
- The Recirc flow input signal to the APRMs is 25%
- As Recirc flow is raised, the "B" Flow Converter/Comparator output remains at 25%
- Actual recirculation loop flows respond as expected

What will be the FIRST effect on plant operation as recirculation flow continues to be raised and what procedure should be used to address this condition?

	Answer/Distractor	Justification
a.	A full SCRAM will occur due to flow biased neutron flux high. Respond IAW OT 3100, Reactor Scram.	Incorrect - The Flow Biased Scram signal for the "B" RPS Channel ARMs (I.e. ARMs B, D, F) will remain unchanged as 70.5% based on the failure of the "B" Flow



		<p>Converter/Comparator. Flow will be increased to 32% on the "A" Flow Converter/Comparator before actual reactor power is increased to 70.5%. The 7% difference between the 2 Converter/Comparator units will cause a comparator unbalance ROD BLOCK before actual power reaches the artificially low trip setpoints for APRMs B, D, F.</p>
b.	<p>A half SCRAM will occur due to flow biased neutron flux high. Respond in accordance with OP 2134, Reactor Protection System.</p>	<p>Incorrect - The Flow Biased Scram signal for the "B" RPS Channel ARMs (I.e. ARMs B, D, F) will remain unchanged as 70.5% based on the failure of the "B" Flow Converter/Comparator. Flow will be increased to 32% on the "A" Flow Converter/Comparator before actual reactor power is increased to 70.5%. The 7% difference between the 2 Converter/Comparator units will cause a comparator unbalance ROD BLOCK before actual power reaches the artificially low trip setpoints for APRMs B, D, F which would cause a half scram.</p>
c.	<p>A control rod block will occur due to a flow converter/comparator unit "inop" signal. Refer to ARS 5-M-5, APRM FLOW BIAS OFF-NORMAL.</p>	<p>Incorrect - The inop flow converter/comparator rod block would occur if one of the comparators had lost power.</p>
d.	<p>A control rod block will occur due to the flow converter/comparator unbalance condition. Refer to ARS 5-D-3, ROD WITHDRAW BLOCK.</p>	<p>Correct</p>

Static Simulator Exams: None

Last Revised: 1-29-13 by BLS.

## **Question #40**

### **Vermont Yankee LOR Exam Bank Question Number New Revision 0**

**System:** 215005

**Instructor Guide:**

**Objectives:**

**References:** OP 2132, APRM Channels

**Reference Open/Closed:** Closed

**SRO Only:** No      **Style:**      **Category:**

**Point Value:** 1      **Time to Complete (Minutes):** 2

**Question Level:** Comprehension

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2157150401	Respond to APRM System Alarms

#### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
215005	A3.03	Ability to monitor automatic operations of the AVERAGE POWER RANGE MONITOR /LOCAL POWER RANGE MONITOR SYSTEM including: A3.03 Meters and recorders	3.3	

#### **Question:**

The plant is operating at 100% with APRMs 'A' and 'F' bypassed.

- 'F' APRM fails upscale.

IAW OP-2132, APRM Channels, which ONE of the following is the response of the APRM System indications?

	<b>Answer/Distractor</b>	<b>Justification</b>
	'F' APRM recorder responds. 'F' APRM benchboard High and High-High lights remain OFF.	Correct – With the APRM bypassed the recorder continues to respond to system inputs but the lights do not.
b.	'F' APRM recorder does not respond. 'F' APRM benchboard High and High-High lights remain OFF.	Incorrect – The recorder continues to respond.

c.	'F' APRM recorder responds. 'F' APRM benchboard High and High-High lights turn ON.	Incorrect – The recorder continues to respond. The lights will not work with the APRM bypassed.
d.	'F' APRM recorder does not respond. 'F' APRM benchboard High and High-High lights turn ON.	Incorrect – The recorder continues to respond. The lights will not work with the APRM bypassed.

Static Simulator Exams: None

Last Revised: 2-13-13, KM

## **Question # 41**

### **Vermont Yankee LOR Exam Bank Question Number NEW Revision 0**

**System:** 217000

**Instructor Guide:**

**Objectives:**

**References:** OP 2121, RCIC, App 'C'

**Reference Open/Closed:** Closed

**SRO Only:** No      **Style:**      **Category:**

**Point Value:** 1      **Time to Complete (Minutes):** 1

**Question Level:** Analysis

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2177130401	Maintain Reactor Water Level with RCIC

#### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
217000	K5.01	Knowledge of the operational implications of the following concepts as they apply to REACTOR CORE ISOLATION COOLING SYSTEM (RCIC) : K5.01 Indications of pump cavitation	2.6	

#### **Question:**

A seismic event has resulted in the following plant conditions:

- An ATWS has occurred with 20 control rods at position 48
- A break in the CST has the crew using RCIC for RPV level control with suction on the Torus
- RPV level is being controlled -19 to 177 inches
- HPCI is being aligned to the Torus
- Torus temperature is 125° F and rising
- SRVs are being used to control pressure
- With RCIC controller in automatic, the RO is observing turbine speed and flow oscillations with speed currently at 1900 rpm

IAW OP 2121, RCIC System, what actions should you take?

	Answer/Distractor	Justification
	Place the RCIC flow controller in MANUAL. Restore flow to >2000 rpm with the manual knob.	Correct – with speed and flow oscillations, RCIC must be placed in MANUAL. RPM should be restored to >2000 rpm for adequate lubrication.
b.	Leave the RCIC flow controller in AUTOMATIC. Restore flow Restore flow to >2000 rpm with setpoint tape.	Incorrect – RPM is low and lube oil to the turbine may be inadequate.
c.	Secure RCIC regardless of adequate core cooling.	Incorrect – RPM is low and lube oil to the turbine may be inadequate. RCIC may be operated in MANUAL.
d.	Secure RCIC only when HPCI is placed in service.	Incorrect – RPM is low and lube oil to the turbine may be inadequate. RCIC may be operated in MANUAL.

Static Simulator Exams: None

Last Revised: 2-4-13, BLS

## **Question # 42**

### **Vermont Yankee LOR Exam Bank Question Number NEW Revision 0**

System: 218000

Instructor Guide:

Objectives:

References: OP 2122, ARS 3-A-2 and 3

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 1

Question Level: Analysis

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
3517080105	Maintain Awareness of Plant and Equipment Status

#### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
218000	K6.03	Knowledge of the effect that a loss or malfunction of the following will have on the AUTOMATIC DEPRESSURIZATION SYSTEM : K6.03 Nuclear boiler instrument system (level indication)	3.8	

#### **Question:**

A small break LOCA has occurred with the following parameters:

- DW pressure 10 psig rising slowly
- RPV water level 80 inches lowering slowly
- HPCI tripped on low oil pressure
- RCIC is injecting

Following ADS valve actuation, all RPV water level instruments (NR) fail high due to a rapid depressurization.

IAW OP 2122, ADS System, what is the status of the ADS valves and why?

<b>Answer/Distracter</b>	<b>Justification</b>
All ADS valves remain OPEN because the low-low water level signal from ECCS NR (LT-2-3-72 A-D) remains sealed in.	Correct -

b.	All ADS valves remain OPEN because the low-low water level signal from Transient NR (LT-2-3-68 A-D) remains sealed in.	Incorrect - Wrong level inst.
c.	All ADS valves CLOSE because the low-low water level signal from ECCS NR (LT-2-3-72 A-D) resets.	Incorrect – K6A/K7A seal in level signal.
d.	All ADS valves CLOSE because the low-low water level signal from Transient NR (LT-2-3-68 A-D) resets.	Incorrect – K6A/K7A seal in level signal.

Static Simulator Exams: None

Last Revised: 2-4-13, KM

## **Question # 43**

### **Vermont Yankee LOR Exam Bank Question Number NEW Revision 0**

System: 223002

Instructor Guide:

Objectives:

References: OP 2115, pg 55 of 57

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 2

Question Level: Analysis

#### Task Associations

Task Number	Task Title
2000170501	Respond to Containment Isolations

#### Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
223002	K3.07	Knowledge of the effect that a loss or malfunction of the PRIMARY CONTAINMENT ISOLATION SYSTEM/NUCLEAR STEAM SUPPLY SHUT-OFF will have on following: K3.07 Reactor pressure	3.7	

#### Question:

A Group 1 isolation has occurred.

RCIC was started manually to provide RPV pressure control.

Subsequently, alarm 4-U-2, RCIC STEAM LINE  $\Delta$  P HI, comes in and clears after 10 seconds.

IAW the above alarm, predict the RCIC system response, and the operator actions (if any), and the RPV pressure response to the above conditions.



	Answer/Distractor	Justification
	<p>RCIC should have isolated. Isolate RCIC. RPV pressure will rise to the lowest SRV lift pressure of 1080#.</p>	<p>Correct - &gt;300% for &gt;5 seconds is a RCIC isolation. SRV lift pressure is 1080#.</p>
b.	<p>RCIC should have isolated. Contact I&amp;C to isolate RCIC. RPV pressure will rise to the lowest SRV lift pressure of 1090#.</p>	<p>Incorrect – The operator should attempt to isolate RCIC. SRV lift pressure is 1080#.</p>
c.	<p>No RCIC isolation exists until both high flow channels are in alarm. As RPV pressure lowers with RCIC in manual speed and flow will lower.</p>	<p>Incorrect – The operator should attempt to isolate RCIC. SRV lift pressure is 1080#.</p>
d.	<p>No RCIC isolation exists when RCIC is started manually. As RPV pressure lowers in AUTO, flow will stay the same.</p>	<p>Incorrect – The operator should attempt to isolate RCIC. SRV lift pressure is 1080#.</p>

Static Simulator Exams: None

Last Revised: 2-5-13, BLS

## **Question #44**

Vermont Yankee LOI Exam Bank Question Number 7421 Revision 3

Instructor Guide: LOT-00-239 MAIN STEAM SYSTEM

Objectives: K6.05b

References: LOT-00-239, Main steam; EOP Study Guide

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
2187010401	Inhibit Automatic Initiation of ADS

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
239002	K5.06	Vacuum breaker operation	2.7	3.0

Question:

Which design feature assists in preventing excessive SRV hydraulic thrust loading during a Group 1 isolation transient with repeated SRV cycling?

	Answer/Distractor	Justification
a.	Four SRVs are utilized to spread the loading.	Incorrect - Distractor A is incorrect as the four valves are a redundant feature.
b.	The T-Quencher assembly.	Incorrect - This is incorrect as the T-Quencher prevents excessive temperature loading on one area of the Torus.
c.	The SRV tailpipe vacuum breakers.	Correct Response-On multiple lifts of the SRV's, water could be drawn up into the tailpipe and hydraulically damage the tailpipes.
d.	Safety valves as a back-up to the SRVs.	Incorrect - The safety valves provide protection to the RPV with additional relief capacity.

Static Simulator Exams: None

Last Revised: 2-4-13 by BLS

## **Question # 45**

### **Vermont Yankee LOI Exam Bank Question Number New Revision 0**

**Instructor Guide:** LOT-00-601 OFF-NORMAL PROCEDURES

**Objectives:** RO EO1,EO 2

**References:** ON 3174, OP 2172

**Reference Open/Closed:** Closed

**SRO Only:** No **Style:** Multiple Choice

**Point Value:** 1 **Time to Complete (Minutes):** 1

**Question Level:** Comprehension

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2000270501	Respond to a Loss of Feedwater
2007950501	Respond to a Loss of 120V/240V Instrument AC Bus Using on 3174

#### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
259002	A4.04	FWRV lockup reset controls	3.7	3.6

#### **Question:**

A momentary loss of Instrument AC occurs.

Which ONE of the following correctly identifies the Feed System response and operator action to be taken IAW ON 3174, Loss of 120V/240V Instrument AC Bus?  
(Disregard the effects of the level transient.)

	<b>Answer/Distractor</b>	<b>Justification</b>
a.	The "A" Feedwater level controller will automatically transfer to manual (lockup). Verify or transfer the 'A' FRV to manual, verify the 'P' and 'V' output is the same and depress the lockup pushbutton.	Incorrect - Should instrument AC be lost or the master controller output is lost, the B manual/auto transfer station will transfer to manual at the called for value 6 seconds prior to the loss of power.
b.	The "A" AND Master Feedwater level controllers will automatically transfer to manual with 'A' FRV locked up. Verify or transfer the 'A' FRV to manual, verify the 'P' and 'V' output is the same and depress the lockup pushbutton. Then, transfer the Master controller to automatic.	Incorrect - This is indicative of a loss of Vital AC.

c.	<p>The "B" AND Master Feedwater level controllers will automatically transfer to manual with 'B' FRV locked up. Verify or transfer the 'B' FRV to manual, verify the 'P' and 'V' output is the same and depress the lockup pushbutton. Then, transfer the Master controller to automatic.</p>	<p>Incorrect - Should instrument AC be lost or the master controller output is lost, the B manual/auto transfer station will transfer to manual at the called for value 6 seconds prior to the loss of power.</p>
d.	<p>The "B" Feedwater level controller will automatically transfer to manual (lockup). Verify or transfer the 'B' FRV to manual, verify the 'P' and 'V' output is the same and depress the lockup pushbutton.</p>	<p>Correct Response- Should instrument AC be lost or the master controller output is lost, the B manual/auto transfer station will transfer to manual at the called for value 6 seconds prior to the loss of power.</p>

Static Simulator Exams: None

Last Revised: 2-5-13 by BLS

## **Question # 46**

### **Vermont Yankee LOR Exam Bank Question Number New Revision 0**

System: 261000

Instructor Guide:

Objectives:

References: UFSAR pages 6.5-5 of 13 and 7.4-12 of 39

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 1

Question Level: Analysis

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2610030101	Place the SBTG System in Service Manually

#### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
261000	K3.04	Knowledge of the effect that a loss or malfunction of the STANDBY GAS TREATMENT SYSTEM will have on following: K3.04 High pressure coolant injection system: Plant- Specific	3.1	

#### **Question:**

A plant transient occurred and HPCI was manually started in pressure control.

'A' SBTG was running to support HPCI operations and has tripped.

'B' SBTG will not start.

IAW VY UFSAR predict the status of HPCI based on the above conditions.

	Answer/Distractor	Justification
a.	HPCI will continue to run. Airborne radiation level will rise in the HPCI area.	Correct – HPCI will run but the lack of SBGT flow on the condenser will allow some radioactive steam to leak into the room.
b.	HPCI will continue to run. Airborne radiation level will stay approximately the same in the HPCI area.	Incorrect – Airborne levels will rise due to HPCI condenser leakage.
c.	HPCI will trip. Airborne radiation level will rise in the HPCI area.	Incorrect – Airborne levels will rise. HPCI will not trip.
d.	HPCI will trip. Airborne radiation level will stay approximately the same in the HPCI area.	Incorrect – Airborne levels will rise. HPCI will not trip.

Static Simulator Exams: None

Last Revised: BLS

## **Question #47**

**Vermont Yankee LOR Exam Bank Question Number 1148 Revision 1**

**System:** 261 SGTS Standby Gas Treatment System

**Instructor Guide:** LOT-00-261 STANDBY GAS TREATMENT SYSTEM

**Objectives:** CRO-2f

**References:** Tech Spec 4.7.B, Amendment 189 ( Bases 4.7.B, pg 170), UFSAR 7.17.2

**Reference Open/Closed:** Closed

**SRO Only:** No **Style:** Multiple Choice **Category:** Plant Proficiency

**Point Value:** 1 **Time to Complete (Minutes):** 2

**Question Level:** Fundamental Knowledge

Task Associations

Task Number	Task Title
2157170401	Respond to SRM System Alarms

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
261000	K4.05	Knowledge of STANDBY GAS TREATMENT SYSTEM design feature(s) and/or interlocks which provide for the following: (CFR 41.7): Fission product gas removal	2.6	2.8

**Question:**

Radioactive Iodine in the discharge of a SBTG train indicates a malfunction of which ONE of the following?

	Answer/Distractor	Justification
a.	Charcoal bed adsorber	Correct
b.	HEPA filter	Incorrect - The HEPA filter is for particulate. Iodine is removed by the charcoal filter.
c.	1Kw electric heater	Incorrect - Iodine is removed by the charcoal filter.
d.	Demister	Incorrect - Iodine is removed by the charcoal filter.

**Static Simulator Exams:** None

**Last Revised:** 2/5/2013, BLS

## **Question #48**

Vermont Yankee LOI Exam Bank Question Number 6215 Revision 2

Instructor Guide: LOT-00-602 OPERATIONAL TRANSIENT PROCEDURES

Objectives: RO EO2

References: OPOT-3169-01

Higher cognitive justification, candidate must recognize the trip of the 12 breaker causes a loss of Bus-1, then understand his/her immediate actions is to insert a manual SCRAM

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 3

Question Level: Analysis

### Task Associations

Task Number	Task Title
2000270501	Respond to a Loss of Feedwater
2000330501	Respond to a Reactor SCRAM
2007900501	Respond to a Loss of Bus 1 Using ON 3169
2007910501	Respond to a Loss of Bus 2 Using ON 3170

### Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
262001	2.4.11	Knowledge of abnormal condition procedures (CFR 41.10, 43.5, 45.13)	4.0	3.6

### Question:

The following conditions exist:

- Early in November, the plant is operating at 85% power
- The Start-up transformers are removed from service for ground repair and a planned 7 day LCO has been entered.

The switching and tagging order consists of the following:

- Breakers 23, 13, K-1, K-40, and the T-3 MOD are tagged open
- During the repair, breaker 12 trips on differential over-current.

Based on the electric plant lineup, what immediate action is required?



	Answer/Distractor	Justification
a.	Verify an automatic SCRAM occurs, if not insert a manual SCRAM and enter OT 3100.	Incorrect - Plausible, as a candidate may believe a automatic SCRAM occurs, but in this instance only a 1/2 SCRAM occurs due to the loss of a RPS bus.
b.	Manually SCRAM the reactor and enter OT 3100.	Correct Response - OT 3169, LOSS of Bus 1, requires an immediate manual SCRAM.
c.	Verify operation of RFP 'C' and Condensate Pumps 'B' and 'C'. Insert a manual SCRAM ONLY if level drops below 140 inches.	Incorrect -Plausible as these components are still operating, but the immediate response is to insert a manual SCRAM.
d.	Verify the Recirc runback occurs on Recirc MG 'B' and Feedwater Master level controller setpoint sets down to 155 inches.	Incorrect -Plausible as these events would occur automatically at a higher power level, but the operator's immediate response is to insert a manual SCRAM.

Static Simulator Exams: None

Last Revised: 1-30-13 by BLS

## **Question #49**

Vermont Yankee LOI Exam Bank Question Number 6717 Revision 2

Instructor Guide: LOT-03-262 RUPS

Objectives: RO Objective #7

References: CWD 335A, OP-2143

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Analysis

Task Associations

Task Number	Task Title
2627310101	Transfer MCC-89A(B) Power from RUPS to the Maintenance TIE

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
262002	K4.01	Knowledge of UNINTERRUPTABLE POWER SUPPLY (A.C./ D.C.) design feature(s) and/or interlocks which provide for the following: (CFR 41.7): Transfer from preferred power to alternate power supplies	3.1	3.4

Question:

The plant simultaneously experienced a Loss of Coolant Accident (LOCA) and Loss of Normal Power (LNP).

The following plant conditions exist:

- Reactor water level is 60 inches and slowly lowering
- Reactor pressure is 750 psig and slowly lowering
- Drywell pressure is 4.2 psig and slowly rising
- The "A" EDG failed to start
- All other equipment is operating as expected for the current plant conditions.

IAW OP 2143, 480 Volt and Lower AC Systems, which ONE of the following describes the current state of the UPS-1B System?

UPS-1B Feeder Breaker is...

	Answer/Distractor	Justification
a.	OPEN and is operating on DC Drive	Correct Response- UPS-1B Feeder breaker is opened based on low-low level <82.5" however, the "B" EDG is powering Bus 3 and 8 as designed, therefore after ~13

		seconds, the M contact shuts however the UPS Feeder breaker remains open from low-low level signal keeping the UPS on DC Drive.
b.	OPEN and is operating on AC Drive	Incorrect - UPS-1B Feeder breaker is opened based on low-low level <82.5" however, the "B" EDG is powering Bus 3 and 8 as designed, therefore after ~13 seconds, the M contact shuts however the UPS Feeder breaker remains open from low-low level signal keeping the UPS on DC Drive.
c.	CLOSED and is operating on DC Drive	Incorrect - UPS-1B Feeder breaker is opened based on low-low level <82.5" however, the "B" EDG is powering Bus 3 and 8 as designed, therefore after ~13 seconds, the M contact shuts however the UPS Feeder breaker remains open from low-low level signal keeping the UPS on DC Drive.
d.	CLOSED and is operating on AC Drive	Incorrect - UPS-1B Feeder breaker is opened based on low-low level <82.5" however, the "B" EDG is powering Bus 3 and 8 as designed, therefore after ~13 seconds, the M contact shuts however the UPS Feeder breaker remains open from low-low level signal keeping the UPS on DC Drive.

Static Simulator Exams: None

Last Revised: 1-30-13 by BLS

## **Question #50**

Vermont Yankee LOI Exam Bank Question Number 6860 Revision 1

Instructor Guide: LOT-00-601 OFF-NORMAL PROCEDURES

Objectives: RO EO1, EO3

References: OPON-3159-01

2007 ILO Audit Exam

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Analysis

Task Associations

Task Number	Task Title
2007350404	Respond to a Loss of DC-1

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
263000	K6.01	Knowledge of the effect that a loss or malfunction of the following will have on the D.C. ELECTRICAL DISTRIBUTION : K6.01 A.C. electrical distribution	3.2	

Question:

Consider the following situation:

The plant is operating at rated conditions with ALL equipment operable and in a normal electrical plant lineup when a LNP occurs.

The following annunciator and control panel indications are noted by the crew:

- DC-1/DC-2 BKR TRIP (8-N-1)
- BUS 1 CTRL PWR LOSS (8-Q-2)
- Loss of power to TURBINE TRIP MTS-1 "white" light
- Loss of power to ECCS Analog Trip Cabinet 25-5B

In addition to entering OT 3100, which ONE of the following procedures is required to be entered, and how should RPV level be controlled?

	Answer/Distractor	Justification
a.	Enter OPON-3159-01, Loss of DC-1, and establish level control with HPCI.	Incorrect - A loss of DC-1 has occurred, only RCIC is available for level control.
b.	Enter OPON-3159-01, Loss of DC-1, and establish level control with RCIC.	Correct Response: Bus 1 control power loss alarm, with MTS-1 light out and loss

		of power to the 5B ECCS trip cabinet are symptomatic of a loss of DC-1. Further, the operator must discern that HPCI is now unavailable so RCIC is the only high pressure injection system after an LNP.
c.	Enter ON 3160, Loss of DC-2 and DC-3, and establish level control with HPCI.	Incorrect - A loss of DC-1 (not DC-2) has occurred and only RCIC is available. A loss of DC-2/3 will result in NO alarms.
d.	Enter ON 3160, Loss of DC-2 and DC-3, and establish level control with RCIC.	Incorrect - A loss of DC-1 (not DC-2) has occurred. A loss of DC-2/3 will result in NO alarms.

Static Simulator Exams: None

Last Revised: 1-31-13 by BLS

## **Question #51**

### **Vermont Yankee LOI Exam Bank Question Number 113 Revision 4**

**Instructor Guide:** LOT-00-264 EMERGENCY DIESEL GENERATOR

**Objectives:** K 4.01, A4.04

**References:** OP 2126

**Reference Open/Closed:** Closed

**SRO Only:** No    **Style:** Multiple Choice

**Point Value:** 1    **Time to Complete (Minutes):** 2

**Question Level:** Fundamental Knowledge/Memory

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2640060101	Shut Down a Diesel Generator

#### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
264000	A1.03	Ability to predict and/or monitor changes in parameters associated with operating the EMERGENCY GENERATORS (DIESEL/JET) control including: (CFR 41.5 / 45.5): Operating voltages, currents, and temperatures	2.8	2.9

#### **Question:**

Emergency Diesel Generator (EDG) "A" started automatically due to a Design Basis, Loss of Coolant Accident.

With EDG "A" operating and supplying power to its associated bus, which ONE of the following signals will stop the diesel?

	<b>Answer/Distractor</b>	<b>Justification</b>
a.	The 'A' EDG control switch on CRP 9-8 placed to 'STOP'.	Incorrect -DBA and LOCA signal will prevent stopping the diesel.
b.	Depressing the local stop pushbutton at the DG-1-1A Generator Panel.	Incorrect - DBA and LOCA signal will prevent stopping the diesel.
c.	Lube oil pressure lowering to 18 psig.	Incorrect -low oil pressure trip is 16 psig.
d.	Jacket coolant temperature rising to 210° F.	Correct Response- setpoint is 205F.

**Static Simulator Exams:** None

**Last Revised:** 1/31/2013 by Stewart, Brian

## **Question # 52**

Vermont Yankee LOR Exam Bank Question Number New Revision 0

System: 300000

Instructor Guide:

Objectives:

References: OPON-3146-01, Att 1

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 1

Question Level: Fundamental Knowledge

Task Associations

Task Number	Task Title
2000130501	Respond to a Loss of Instrument Air Pressure

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
300000	K1.03	Knowledge of the connections and / or cause effect relationships between INSTRUMENT AIR SYSTEM and the following: K1.03 Containment air	2.8	

Question:

Which ONE of the following statements is true regarding MSIV Air/Nitrogen supply?

The inboard MSIVs, MS-80A-D, are supplied with \_\_\_\_ (1) \_\_\_\_ and the outboard MSIVs, MS-86A-D, are supplied with \_\_\_\_ (2) \_\_\_\_ when the primary containment is \_\_\_\_ (3) \_\_\_\_.

	Answer/Distractor	Justification
a.	(1) instrument air (2) containment air (3) inerted	Incorrect – When inerted, the inboard MSIVs use CA and outboard MSIVs use IA.
b.	(1) containment air (2) instrument air (3) de-inerted	Incorrect – When de-inerted, the MSIVs use IA.
c.	(1) containment air (2) containment air (3) inerted	Incorrect – When inerted, the outboard MSIVs use IA.
	(1) instrument air	Correct – When de-inerted, the outboard

(2) instrument air (3) de-inerted	and inboard MSIVs use IA.
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Static Simulator Exams:

Last Revised:



## **Question #53**

Vermont Yankee LOI Exam Bank Question Number New Revision 0

Instructor Guide: LOT-00-602 OPERATIONAL TRANSIENT PROCEDURES

Objectives: RO EO5

References: OT 3165 Caution

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
2000620504	Respond to Loss of TBCCW

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
400000	A2.03	Ability to (a) predict the impacts of the following on the CCWS and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation: A2.03 High/low CCW temperature	2.9	3.0

Question:

An unrecoverable loss of TBCCW has occurred due to a loss of service water flow to the TBCCW heat exchangers.

IAW OT 3165, Loss of TBCCW, as temperatures rise the condensate and reactor feed pumps in the alarm condition are secured due to elevated \_\_\_\_ (1) \_\_\_\_.

Pump swaps \_\_\_\_ (2) \_\_\_\_ permitted.

	Answer/Distractor	Justification
a.	(1) thrust bearing temperatures due to a loss of cooling (2) are	Correct Response- Unrecoverable loss of TBCCW will require tripping running condensate and feed pumps within approximately 10 minutes to prevent bearing damage. Pump swaps are permitted to maintain RPV water level.
b.	(1) thrust bearing temperatures due to a loss of cooling (2) are NOT	Incorrect - Unrecoverable loss of TBCCW will require tripping running condensate and feed pumps within approximately 10 minutes to prevent bearing damage. Pump swaps are permitted to maintain RPV water level.

c.	(1) area temperatures caused by a loss of TRU cooling (2) are	Incorrect - Unrecoverable loss of TBCCW will require tripping running condensate and feed pumps within approximately 10 minutes to prevent bearing damage. TRU coolers are not the concern. Pump swaps are permitted to maintain RPV water level.
d.	(1) area temperatures caused by a loss of TRU cooling (2) are NOT	Incorrect - Unrecoverable loss of TBCCW will require tripping running condensate and feed pumps within approximately 10 minutes to prevent bearing damage. TRU coolers are not the concern. Pump swaps are permitted to maintain RPV water level.

Static Simulator Exams: None

Last Revised: 2-4-13 by BLS

## **Question #54**

Vermont Yankee LOR Exam Bank Question Number NEW Revision 0

System: 201003

Instructor Guide:

Objectives:

References: OPON 3145

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 2

Question Level: Analysis

### Task Associations

Task Number	Task Title
2007280501	Respond to Loss of CRD Regulating Malfunction

### Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
201003	A2.07	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: A2.07 Loss of CRD drive water flow	3.1	

### Question:

The following plant conditions exist:

- 'A' CRD pump is in service
- CRD flow control valve CRD-FCV-19A is in AUTO
- Reactor power is ~50%

Predict the change in CRD drive water pressure if CRD-FCV-20, CRD Drive Water Pressure Control Valve, fails open and determine the required action.

CRD drive water pressure \_\_\_\_ (1) \_\_\_\_ and IAW OPON-3145-01, Loss of CRD Regulating Function, rod movement is suspended until CRD drive water pressure is restored to between \_\_\_\_ (2) \_\_\_\_ above reactor pressure.

	Answer/Distractor	Justification
a.	(1) rises (2) 250-275 psig	Incorrect - Drive water pressure lowers
b.	(1) rises (2) 300-325 psig	Incorrect - Wrong control band
	(1) lowers (2) 250-275 psig	Correct - OPON-3145-01 step 6.7.1
d.	(1) lowers (2) 300-325 psig	Incorrect - Wrong control band

Static Simulator Exams: None

Last Revised: 2-4-13, KM

## **Question # 55**

### **Vermont Yankee LOR Exam Bank Question Number NEW Revision 0**

**System:** 202001

**Instructor Guide:**

**Objectives:**

**References:** OP 2110, Reactor Recirculation System

**Reference Open/Closed:** Closed

**SRO Only:** No      **Style:**      **Category:**

**Point Value:** 1      **Time to Complete (Minutes):** 1

**Question Level:** Fundamental Knowledge

#### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2000150504	Respond to Recirculation Pump Trip

#### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
202001	A2.22	Ability to (a) predict the impacts of the following on the RECIRCULATION SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: A2.22 Loss of component cooling water	3.1	

#### **Question:**

During summer operations Service Water temperature is at 83° F.

What effect could this have on the recirculation system and what procedure would provide guidance?

	Answer/Distractor	Justification
a.	Recirc drive breaker will trip if lube oil temperature rises to 212° F. Enter OT 3118, Recirc Pump trip.	> 210 F will trip the recirc drive breaker. OT 3118 is the procedure to enter for this event.
b.	Recirc drive breaker will trip if lube oil temperature rises to 182° F. Enter OT 3118, Recirc Pump trip.	> 210 F will trip the recirc drive breaker. OT 3118 is the procedure to enter for this event.
c.	Recirc seals could fail if seal cavity temperature rises to 152° F. Enter OPON-3142-01, Recirc Pump Seal Failure.	The recirc seals are cooled by RBCCW. Seals will fail at >160 F making this a good distracter.
d.	Recirc seals could fail if seal cavity temperature rises to 132° F. Enter OPON-3142-01, Recirc Pump Seal Failure.	The recirc seals are cooled by RBCCW. Seals will fail at >160 F making this a good distracter.

Static Simulator Exams: None

Last Revised: 2-4-13, BLS

## **Question #56**

Vermont Yankee LOR Exam Bank Question Number NEW Revision 0

System: 202002

Instructor Guide:

Objectives:

References: OP 2110, reactor recirculation system

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 2

Question Level: Fundamental Knowledge

### Task Associations

Task Number	Task Title
2027060101	Transfer from Master Manual to Individual Manual Control

### Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
202002	K4.02	Knowledge of RECIRCULATION FLOW CONTROL SYSTEM design feature(s) and/or interlocks which provide for the following: K4.02 Recirculation pump speed control: Plant- Specific	3.1	

### Question:

The plant is operating at 100% CTP.

A trip of 'A' Reactor feed pump occurs.

IAW OP 2110, Recirculation System, predict the status of the recirculation system.

'A' and 'B' individual recirculation controllers \_\_\_\_ (1) \_\_\_\_.

Recirculation pump speed will runback to \_\_\_\_ (2) \_\_\_\_.

	Answer/Distractor	Justification
a.	(1) remain in AUTO. (2) minimum.	Incorrect - The shift of the controller to manual is an important follow-up action in OT 3175, Recirc runback. Runback to minimum is on inadequate NPSH from <20% feed flow to the recirc system from feedwater.
b.	(1) remain in AUTO. (2) 40% demand signal.	Incorrect - The shift of the controller to manual is an important follow-up action in OT 3175, Recirc runback. A RFP trip will result in a recirc runback to the 40% scoop tube position.
c.	(1) shift to MANUAL. (2) minimum.	Incorrect - The shift of the controller to manual is an important follow-up action in OT 3175, Recirc runback. A RFP trip will result in a recirc runback to the 40% scoop tube position. Runback to minimum is on inadequate NPSH from <20% feed flow to the recirc system from feedwater.
d.	(1) shift to MANUAL. (2) 40% demand signal.	Correct – The shift of the controller to manual is an important follow-up action in OT 3175, Recirc runback. A RFP trip will result in a recirc runback to the 40% scoop tube position.

Static Simulator Exams: None

Last Revised: 2-13-13, KM



## **Question #57**

Vermont Yankee LOI Exam Bank Question Number 1378 Major Revision 3

Instructor Guide: LOT-04-215 TRAVERSING IN-CORE PROBE (TIP)

Objectives: K4.01

References: OP 2115

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 3

Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
2000170501	Respond to Containment Isolations

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
215001	K1.05	Knowledge of the physical connections and/or cause-effect relationships between TRAVERSING IN-CORE PROBE and the following: (CFR 41.2 to 41.9 / 45.7 to 45.8): Primary containment isolation system: (Not-BWR1)	3.3	3.4

Question:

A full core Local Power Range Monitor (LPRM) calibration is in progress with the Traversing In-core Probe (TIP) System.

- A fault in the Feedwater Control System results in the tripping of all Feedwater Pumps
- Level lowers to 75 inches before Reactor Core Isolation Cooling (RCIC) and High Pressure Coolant Injection (HPCI) inject and restore reactor water level

Given these conditions, what (if any) AUTOMATIC actions associated with the TIP System are expected to occur?

	Answer/Distractor	Justification
a.	No automatic response occurs because a Hi DW signal is NOT present.	Incorrect -Group II causes isolation at 127 inches.
b.	ONLY the Shear Valve fires when reactor water level lowers to 82.5 inches.	Incorrect -no response at 82.5, no auto shear.
c.	The TIP drive retracts the TIP detector AND the ball valve closes when reactor water level lowers to 127 inches.	Correct Response-Group II causes isolation at 127 inches.
d.	The TIP drive retracts the TIP detector AND the ball valve closes when reactor water level lowers to 127 inches AND the Shear Valve fires when reactor water level lowers to 82.5 inches.	Incorrect -no response at 82.5, no auto shear.

Static Simulator Exams: None

Last Revised: 2-5-13 by BLS

## **Question #58**

Vermont Yankee LOI Exam Bank Question Number 5679 Revision 0

Instructor Guide: LOT-00-607 EOP-3, PRIMARY CONTAINMENT CONTROL

Objectives: CRO 1

References: EOP, Study Guide, Vol 4, Section 8, page 5 of 43

New

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
2000190501	Respond to High Torus Water Temperature

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
219000	A4.12	Ability to manually operate and/or monitor in the control room: A4.12 Suppression pool temperature	4.1	

Question:

EOP-3, Primary Containment Control, has been entered due to high torus water temperature and low torus level.

Torus level is currently 8.3 feet and lowering slowly.

Which ONE of the following is the preferred indication to be used to determine torus water temperature IAW the EOP study guide when RHR is in service in Torus Cooling?

	Answer/Distractor	Justification
a.	ERFIS point M062/M064 of average torus temperature.	Correct – This is the average torus water temperature just upstream of the RHR heat exchanger which will be the RHR suction from the torus.
b.	TI-16-19-33C torus water temperature CRP 9-3.	Incorrect – These detectors could become uncovered if torus level drops to <8.5 feet and will only read torus air space temperature.
c.	TI-16-19-33A torus water temperature CRP 9-3.	Incorrect – These detectors could become uncovered if torus level drops to <8.5 feet and will only read torus air space temperature.
d.	The higher of TI-16-19-33 A or C.	Incorrect – These detectors could become uncovered if torus level drops to <8.5 feet and will only read torus air space temperature.

Static Simulator Exams: None

Last Revised: 02/01/2013 by BLS

## **Question #59**

Vermont Yankee LOI Exam Bank Question Number 7994 Revision 1

Instructor Guide: LOT-01-223 PRIMARY CONTAINMENT ISOLATION SYSTEM (PCIS)

Objectives: A1.01, A3.01, K4.06

References: CWDs 1100-1123

OP 2115

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 2

Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
2000170501	Respond to Containment Isolations

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
223001	A3.03	Ability to monitor automatic operations of the PRIMARY CONTAINMENT SYSTEM AND AUXILIARIES including: A3.03 System indicating light and alarms	3.4	

Question:

The six Primary Containment Isolation System (PCIS) red lights on the vertical section of CRP 9-5, lower right hand corner, are illuminated.

Which ONE of the following is indicated by these six red lights?

	Answer/Distractor	Justification
a.	The control switches required to satisfy the Inadvertant Opening Protect Logic (IOPL), for PCIS groups 1, 2, and 3 are in the CLOSED position.	Correct Response
b.	The valve position indications required to satisfy the Inadvertant Opening Protect Logic (IOPL), for PCIS groups 1, 2, and 3 are satisfied.	Incorrect - These lights due not receive an input from valve position signals
c.	Isolation signals associated with PCIS Group 1, 2, and 3 isolations are clear and the valves are in the OPEN position.	Incorrect - The lights are illuminated by the swiches in the closed position which causes the valves to be closed also
d.	A PCIS Group 1, 2 and 3 isolation signal is	Incorrect - These six lights are not affected

	present and the isolations can NOT be reset.	by any isolation signal, only by control switch position.
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Static Simulator Exams: None

Last Revised: 5/15/2012 3:11:33 PM by Brown, Scott

## **Question #60**

Vermont Yankee LOI Exam Bank Question Number 7589 Revision 0

Instructor Guide: LOT-00-607 EOP-3, PRIMARY CONTAINMENT CONTROL

Objectives: K1.03

References: Provide DWSIL curve

EOP Study Guide, Section 8, pg 186 of 346

VY 2009 NRC exam

Reference Open/Closed: Open

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Fundamental Knowledge

Task Associations

Task Number Task Title

2000210501 Respond to High Drywell Temperature

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
226001	K5.06	Knowledge of the operational implications of the following concepts as they apply to RHR/LPCI: CONTAINMENT SPRAY SYSTEM MODE : K5.06 Vacuum breaker operation	2.6	

Question:

An accident occurred and Drywell pressure is 5 psig with Drywell temperature 340°F and rising.

Based upon these plant conditions and the Drywell Spray Initiation Limit Curve, IAW EOP study guide, what adverse conditions could result from drywell spray initiation?

	Answer/Distractor	Justification
a.	The evaporative cooling pressure drop may result in de-inerting the drywell by vacuum breaker opening following initiation of drywell sprays.	Correct Response— IAW EOP Study Guide, The DWSIL is a function of drywell pressure. It is utilized to preclude de-inertion following initiation of drywell sprays.
b.	The delta pressure between the drywell and torus will prevent the vacuum breaker from functioning as designed.	Incorrect - This is the bases for the level limit.
c.	The evaporative cooling pressure drop following initiation of drywell sprays may result in exceeding torus design internal pressure.	Incorrect - the vacuum breakers are designed to prevent exceeding the DW external pressure limit (2 psig).
d.	Lowering drywell pressure will reopen the SRVs, causing RPV pressure to drop below the saturation pressure for the current DW temperature.	Incorrect -The SRVs may open in lowering PC pressure, however PC temperature will also be lowering and the SRVs will close at a sufficient D/P to prevent falling below the saturation pressure for the new DW temperature.

Static Simulator Exams: None

Last Revised: 2/5/2013 by Stewart, Brian



## **Question #61**

Vermont Yankee LOI Exam Bank Question Number 7574 Revision 1

Instructor Guide: LOT-00-233 NORMAL AND STANDBY FUEL POOL COOLING AND CLEANUP SYSTEM

Objectives: A1.07

References: OP-2179, P&L 8, pg 6

VY 2009 NRC exam

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Fundamental Knowledge/Memory

Task Associations

**Task Number Task Title**

2337180104 Place the SFPC System in Operation

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
233000	A1.03	Ability to predict and/or monitor changes in parameters associated with operating the FUEL POOL COOLING AND CLEAN-UP controls including: A1.03 Pool temperature	3.1	

Question:

The plant has just resumed power operations following a refueling outage.

The following conditions exist:

- One train of Normal Fuel Pool Cooling (NFPC) is in service aligned to the Spent Fuel Pool with maximum cooling water flow through the in-service heat exchanger.
- River temperatures are unusually high resulting in high Service Water and Reactor Building Closed Cooling Water (RBCCW) temperatures.
- All trains of NFPC and Standby Fuel Pool Cooling (SFPC) are available.
- Spent Fuel Pool temperature is 139° F and rising.

In accordance with OP 2179, Standby Fuel Pool Cooling, and OPOP-NFPC-2184, Normal Fuel Pool Cooling System, which ONE of the following actions is required?

	Answer/Distractor	Justification
a.	Place the OTHER train of NFPC in service.	Incorrect - SFPC needs to be placed in service and so NFPC must be secured. It is physically impossible for NFPC and SFPC to be in service on the Spent Fuel Pool at the same time.
b.	Maintain ONE train of NFPC in service and place ONE train of SFPC in service.	Incorrect - SFPC needs to be placed in service and Normal FPC has to be secured. It is physically impossible for NFPC and SFPC to be in service on the Spent Fuel Pool at the same time.
c.	Secure NFPC and place ONE train of SFPC in service.	Correct Response- From OP-2179, P&L 8, Prior to the Spent Fuel Pool water temperature exceeding 140° F, secure the Normal FPC and place the SFPC System in service. SFPC is cooled by SW, FPC is cooled by RBCCW.
d.	Maintain ONE train of NFPC in service and place BOTH trains of SFPC in service.	Incorrect - SFPC need to be placed in service. It is physically impossible for NFPC and SFPC to be in service on the Spent Fuel Pool at the same time.

Static Simulator Exams: None

Last Revised: 2-4-13 by Stewart, Brian

## **Question #62**

Vermont Yankee LOR Exam Bank Question Number 574 Revision 3

System: 249 MHC Main Turbine Mechanical Hydraulic Control System  
Instructor Guide: LOT-00-249 MECHANICAL HYDRAULIC CONTROL SYSTEM  
Objectives: A2.01  
References: OT 3115  
Main Turbine Tech Manual  
Must know what effect the pressure detector failure has on the EPR and what the resulting MHC system response will be  
Reference Open/Closed: Open  
SRO Only: No Style: Multiple Choice Category: Plant Proficiency  
Point Value: 1 Time to Complete (Minutes): 2  
Question Level: Analysis

### Task Associations

Task Number	Task Title
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2000180501	Respond to High Reactor Pressure
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### Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
241000	K6.06	Knowledge of the effect that a loss or malfunction of the following will have on the REACTOR/TURBINE PRESSURE REGULATING SYSTEM : K6.06 Reactor pressure	3.8	

### Question:

The plant is operating normally at 100% power when the pressure averaging manifold pressure transmitter for the EPR (PT-110-4) fails to an approximately 50% signal.

IAW OP 2113, Main and Auxiliary Steam, plant response to this event would be which ONE of the following?

	Answer/Distractor	Justification
a.	Control valves open, lowering RPV pressure until MPR takes control.	Incorrect - Control valves will get a closed signal.
b.	Control valves open, lowering RPV pressure until 800 psig in RUN Group I.	Incorrect - Control valves will get a closed signal.
c.	Control valves close, raising RPV pressure until MPR takes control.	Correct Response – When the pressure averaging manifold pressure transmitter signal fails to 50%, the MHC system, through the EPR, will sense reactor

		pressure low and close the control valves.
d.	Control valves close, raising RPV pressure until the reactor scrams on high pressure.	Incorrect – Control valves will close until the MPR takes over at a higher reactor pressure.

Static Simulator Exams: None

Last Revised: 02/01/2013 by BLS

## **Question #63**

Vermont Yankee LOR Exam Bank Question Number NEW Revision 0

System: 259001

Instructor Guide:

Objectives:

References: OPOT-3169-01, The operator must recall that 'A/B' RFP are powered from Bus 1 with the 'B' RFP RFP's powered from bus 2. Then, apply the given conditions with RFP and STBY to determine the correct RFP configuration.

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 2

Question Level: Fundamental Knowledge

Task Associations

Task Number	Task Title
2007900501	Respond to a Loss of Bus-1 Using OPOT-3169-01

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
259001	K2.01	Knowledge of electrical power supplies to the following: K2.01 Reactor feedwater pump(s): Motor-Driven-Only	3.3	

Question:

- The station is starting up with power at 65%
- 'A' RFP is running
- 'B' RFP is in STANDBY
- 'C' RFP is running
- Subsequently a loss of Bus 1 occurs

IAW OPOT-3169-01, Loss of Bus-1, which ONE of the following is the correct combination of reactor feed pumps left running?

(Note: Disregard any level transient or operator actions)

	Answer/Distractor	Justification
a.	'A' RFP is tripped 'B' RFP is running 'C' RFP is tripped	Incorrect – 'A' RFP would be tripped. 'B' RFP would still be secured with no power. 'C' RFP is powered from bus 2.
b.	'A' RFP is running 'B' RFP is still secured 'C' RFP is running	Incorrect - 'A' and 'B' RFP's are powered from Bus 1 and would be tripped. 'C' RFP is powered from bus 2 and should be running.
	'A' RFP is tripped	Correct – 'A' and 'B' RFP's are powered

	'B' RFP is still secured 'C' RFP is running	from Bus 1 and 'C' RFP is powered from Bus 2.
d.	'A' RFP is running 'B' RFP is running 'C' RFP is tripped	Incorrect — 'A' RFP would be tripped. 'B' RFP would still be secured with no power. 'C' RFP is powered from bus 2 and should be running.

Static Simulator Exams: None

Last Revised: 2-13-13, KM

## **Question # 64**

**Vermont Yankee LOR Exam Bank Question Number NEW Revision 0**

**System:** 271000

**Instructor Guide:**

**Objectives:**

**References:** OPOP-AOG-2150; Alarm Response Sheet 6-H-1

**Reference Open/Closed:** Closed

**SRO Only:** No      **Style:**      **Category:**

**Point Value:** 1      **Time to Complete (Minutes):** 2

**Question Level:** Analysis

### **Task Associations**

<b>Task Number</b>	<b>Task Title</b>
2000510504	Respond to Condenser High Back Pressure

### **Knowledge and Abilities Associations**

<b>System</b>	<b>K/A No.</b>	<b>Statement</b>	<b>RO</b>	<b>SRO</b>
271000	K6.11	Knowledge of the effect that a loss or malfunction of the following will have on the OFFGAS SYSTEM : K6.11 Condenser vacuum	3.2	

### **Question:**

The plant is operating at 96% power coasting down for a refuel outage.

FCV-OG-516A is in-service throttled 60.8% open to control Offgas System Flow.

FCV-OG-516B is in-service throttled 100% open to control Offgas System Flow.

- Air in leakage from a leaking vacuum breaker results in rising Main Condenser backpressure.
- As a result pressure in the Offgas System OG-100 Line rises to 6.0 psig.
- Annunciator 6-H-1, AOG PRESS HI, is received

Based on these Offgas System conditions the operator should verify:

	Answer/Distractor	Justification
	BOTH OG-516A and OG-516B will automatically close.	Correct- IAW Alarm Response Sheet for Annunciator 6-H-1 and OP 2150 (Discussion Section) high pressure in the OG-100 Line at 5.4 psig as sensed by 2 of 2 pressure switches OG-PS-102-21E and G will provide an automatic close signal to both OG-516A/B valves.
b.	BOTH OG-516A and OG-516B will stay in their current position.	OG-516A/B will get an auto close signal based on high pressure in the OG-100 Line. This is a plausible distractor if the operator does not interpret the OG 100 line high pressure isolation signal setpoint.
c.	ONLY OG-516A will automatically close and OG-516B will stay in its current position.	OG-516A & B will get an auto close signal based on high pressure in the OG-100 Line. This is a plausible distractor because OT 3120 directs operator to reset and open OG-516 valve to control main condenser backpressure.
d.	ONLY OG-516B will automatically close and OG-516A will stay in its current position.	Both OG-516A/B receive an auto close signal based on high pressure in the OG-100 Line. This is a plausible distractor because the OG-516A valve will trip close on high pressure in the OG-100 Line and OT 3120 directs operator to reset and open OG-516 valve to control main condenser backpressure.

Static Simulator Exams: None

Last Revised: 2-4-13, BLS



## **Question #65**

Vermont Yankee LOI Exam Bank Question Number 6758 Revision 2

Instructor Guide: LOT-00-601 OFF-NORMAL PROCEDURES

Objectives: RO EO2

References: OP-2150

ON-3152 Automatic Action 1.a

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 2

Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
2007090501	Respond to High Off-Gas Radiation

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
272000	K3.05	Knowledge of the effect that a loss or malfunction of the RADIATION MONITORING System will have on following: K3.05 Offgas system	3.5	

Question:

Consider the following situation:

The Advanced Off Gas System is operating with OG-145 (Dryer Skid) open and OG-146 (Adsorber Bed Bypass valves) closed when the Off Gas Radiation monitor, RAN-OG-3128, fails upscale.

IAW OPOP-AOG-2150, AOG System, with no operator action, which of the following will occur?

	Answer/Distractor	Justification
a.	FCV-11 (stack isolation) will close in 2 minutes, OG-3 (delay line drain) will close immediately.	Incorrect - Both close in 30 minutes when either OG-145 or 146 are shut.
b.	FCV-11 (stack isolation) will close in 30 minutes, OG-3 (delay line drain) will close immediately.	Incorrect - Both close in 30 minutes when either OG-145 or 146 are shut.
c.	Both FCV-11 (stack isolation) and OG-3 (delay line drain) will close in 30 minutes.	Correct Response- Rad Level to Holdup and Stack, RAN OG 3127 and RAN OG 3128 will close OG FCV 11, Off Gas to Stack Isolation, at the stack and, Delay Pipe Solenoid Drain to Radwaste Bypass, OG 3 under the following conditionsWhen

		the AOG dryer skid and adsorber bed bypass valves OG 145 or OG 146 are closed and either radiation monitor has a Hi Hi trip signal present for 30 minutes, or either radiation monitor downscale alarm is present or power switch in OFF for 30 minutes.
d.	Both FCV-11 (stack isolation) and OG-3 (delay line drain) will close in 2 minutes.	Incorrect - Both close in 30 minutes when either OG-145 or 146 are shut. This is the case when both OG-145 and 146 are initially open.

Static Simulator Exams: None

Last Revised: 6/28/2012 11:26:27 PM by Schulze, William H.

## **Question #66**

Vermont Yankee LOI Exam Bank Question Number 3128 Revision 0

Instructor Guide: LOT-01-400 OPERATIONS DEPARTMENT ADMINISTRATIVE PROCEDURES - 2

Objectives: CRO-1

References: DP 0166, Operations Standards

Used in LOI 2000 RO Audit Exam (8/00)  
and 1999 NRC RO Exam

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 2

Question Level: Comprehension

Task Associations

Task Number	Task Title
2997270301	Follow Operating Instructions and Procedures

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
Conduct of Operations	2.1.23	Ability to perform specific system and integrated plant procedures during all modes of plant operation.	4.3	

Question:

Given the following conditions:

- The plant is operating at 100% power
- A pressure regulator malfunction has resulted in rising reactor pressure
- Reactor pressure has reached 1060 psig on multiple indicators/channels
- There has been NO response from the Reactor Protection System (RPS)

IAW DP 0166, Operations Department Standards, the Control Room Operator should:

	Answer/Distractor	Justification
a.	Inform the Control Room Supervisor (CRS) of the scram failure, while concurrently inserting a manual scram.	Correct – IAW DP 0166, the RO has the authority to scram the plant.
b.	Immediately insert a manual scram by depressing the ARI/RPT pushbuttons.	Incorrect – Only use this method if the manual scram pushbuttons don't work.
c.	Inform the Control Room Supervisor (CRS) of the condition, and insert a	Incorrect – It is not necessary to wait for CRS direction.

	manual scram at his direction.	
d.	Immediately take the EPR to lower, to reduce RPV pressure.	Incorrect – This is not the prescribed method.

Static Simulator Exams: None

Last Revised: 2/11/2013 by BLS

## **Question #67**

### **Vermont Yankee LOR Exam Bank Question Number 42 Major Revision 4**

**System:** 344 ABNORM Abnormal/Emergency Operations

**Instructor Guide:** LOT-00-608 EOP-5, RPV-ED; EOP-6, RPV FLOODING

**Objectives:** A.2

**References:** EOP Study Guide

**Reference Open/Closed:** Open-Provide MSCP

**SRO Only:** No **Style:** Multiple Choice **Category:** Limits & Controls

**Point Value:** 1 **Time to Complete (Minutes):** 10

**Question Level:** Analysis

#### **Task Associations**

Task Number	Task Title
2000310501	Respond to Low Reactor Water Level

#### **Knowledge and Abilities Associations**

System	K/A No.	Statement	RO	SRO
Conduct of Ops	2.1.25	Ability to interpret reference materials, such as graphs, curves, tables, etc.	3.9	4.2

#### **Question:**

An ATWS as occurred.

NO injection or alternate injection systems are running.

Four rods are at notch 48.

RPV level is -25 inches.

RPV Emergency Depressurization is in progress.

IAW EOP-2, MSCP, in which ONE of the following sets of conditions is adequate core cooling still maintained?

	Answer/Distractor	Justification
	One SRV open with RPV pressure at 675 psig.	Correct – This is correct for the MSCP table to assure accuracy.
b.	Two SRVs open with RPV pressure at 230 psig.	Incorrect – This is the wrong interpretation of the MSCP table.
c.	Three SRVs open with RPV pressure at 195 psig.	Incorrect – This is the wrong interpretation of the MSCP table.
d.	Four SRVs open with RPV pressure at 110 psig.	Incorrect – This is the wrong interpretation of the MSCP table.

**Static Simulator Exams:** None

**Last Revised:** 2-4-13 by BLS

## **Question # 68**

Vermont Yankee LOR Exam Bank Question Number New      Revision 0

System:

Instructor Guide:

Objectives:

References: OP 4152, The operator must understand the floor and equipment drain purposes as to which delta readings will produce identified and unidentified. Then, apply knowledge of the surveillance and calculate the GPM from the 6 hour readings.

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 2

Question Level: Analysis

### Task Associations

Task Number	Task Title
2237130204	Perform Primary Containment Leak Rate Test

### Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
Equipment Control	2.2.12	Knowledge of Surveillance Procedures	3.7	

### Question:

The following readings were recorded by the RO:

Floor drain sump		Equipment drain sump	
Integrator (FQ 20-527)	Time	Integrator (FQ 20-530)	Time
857964	0600	34307656	0600
857921	0000	34307363	0000

IAW OP 4152, Equipment and Floor Drain Sump and Totalizer Surveillance, calculate the identified and unidentified leakage rates.

	Answer/Distractor	Justification
a.	Identified leakage= 0.12 GPM Unidentified leakage= 0.81 GPM	Incorrect: Plausible if the operator doesn't understand the sump assignment or calculates incorrectly by using floor drain sump readings for identified leakage rates.
b.	Identified leakage= 0.81 GPM Unidentified leakage= 0.12 GPM	Correct: $656-363=293/6 \text{ hrs}=48.83 / 60 \text{ min}=0.81 \text{ GPM}$ for equipment (identified) leakage. $64-21=43/6\text{hrs}=7.16/60 \text{ min}=0.12 \text{ GPM}$ for floor (unidentified) leakage
c.	Identified leakage= 0.12 GPM Unidentified leakage= 0.93 GPM	Incorrect: Plausible because the operator may incorrectly think that the leakage rates into both sumps need to be added to calculate the unidentified leakage rates.
d.	Identified leakage= 0.81 GPM Unidentified leakage= 0.93 GPM	Incorrect: Plausible if the operator doesn't understand the sump assignment or calculates incorrectly by using floor drain sump readings for identified leakage rates.

Static Simulator Exams: None

Last Revised: 2-14-13, KM

## **Question # 69**

Vermont Yankee LOR Exam Bank Question Number   New   Revision 0

System:

Instructor Guide:

Objectives:

References: Tech Specs

Reference Open/Closed: Closed

SRO Only: No      Style:      Category:

Point Value: 1      Time to Complete (Minutes): 2

Question Level: Comprehension

Task Associations

Task Number	Task Title
3417040302/0 3	Ensure Technical Specifications/TRM/ODCM are Followed by Shift Operations Crews

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
Equipment Control	2.2.42	Ability to recognize system parameters that are entry-level conditions for Technical Specifications.	3.9	

Question:

IAW VY Technical Specifications, which ONE is a correct description of the minimum reactor coolant pressure which would be a Tech Spec safety limit violation?

Greater than \_\_\_\_1\_\_\_\_ PSIG RPV steam space pressure which is equivalent to \_\_\_\_2\_\_\_\_ PSIG at the lowest elevation of the reactor coolant system.



	Answer/Distractor	Justification
a.	1. 1250 2. 1290	Incorrect: 1250 is just over the setpoint of the VY safety valves and is the ASME code pressure rating.
b.	1. 1295 2. 1335	Incorrect: 1335 at the lower coolant system elevation is a plausible distractor.
c.	1. 1335 2. 1375	Correct: ASME code is 1250 # X 110% which is 1375 at the lower coolant system elevation. Accounting for the head of water in the system the steam space pressure would be 1335.
d.	1. 1375 2. 1415	Incorrect: Plausible if the operator recalls 1375 # and recalls the 40# delta between upper/lower elevations.

Static Simulator Exams: None

Last Revised: 2-14-13, BLS

## **Question #70**

Vermont Yankee LOI Exam Bank Question Number 1389 Revision 1

Instructor Guide: LOT-00-202 REACTOR RECIRCULATION SYSTEM

Objectives: K4.12

References: T.S. 3.6.A.4, OP 2110

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 2

Question Level: Fundamental Knowledge/Memory

Task Associations

**Task Number Task Title**

2020040101 Startup a Recirc Pump with One Pump Already Running

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
Generic	2.2.25	Knowledge of the bases in Technical Specifications for limiting conditions for operations and safety limits.	3.2	4.2

Question:

Which ONE of the following actions is PROHIBITED by Vermont Yankee Technical Specifications and the administrative limits of OP 2110, Reactor Recirculation System?

	Answer/Distractor	Justification
a.	Operation of two reactor recirculation loops with greater than a 50° F temperature difference between the loops.	Incorrect – The limit is on recirc pump starts with this delta temp.
b.	Operation of two reactor recirculation loops with greater than a 145° F temperature difference between the bottom head drain and the reactor saturation temperature.	Incorrect - The limit is on recirc pump starts with this delta temp.
c.	Startup of an idle reactor recirculation loop with greater than a 50° F temperature difference between the idle and operating loop	Correct Response- In order to limit thermal shock to the reactor vessel nozzles and the bottom reactor head region on startup of an idle recirculation loop, two temperature limits have been established: The first thermal consideration requires coolant temperature in the idle loop to be within 50F of the operating loop prior to pump start. The second thermal consideration

		requires the bottom drain temperature to be within 145F of the reactor saturation temperature prior to pump start.
d.	Startup of an idle reactor recirculation loop with greater than a 145° F temperature difference between the bottom head drain and the idle loop	Incorrect - The thermal consideration requires the bottom drain temperature to be within 145 F of the reactor saturation temperature prior to pump start.

Static Simulator Exams: None

Last Revised: 2-4-13 by BLS

## **Question #71**

Vermont Yankee LOI Exam Bank Question Number 7322 Revision 0

Instructor Guide: LOT-01-400 OPERATIONS DEPARTMENT ADMINISTRATIVE PROCEDURES - 2

Objectives: RO 9

References: AP 0155, pg 4 definitions

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Fundamental Knowledge/Memory

Task Associations

**Task Number Task Title**

2000610504 Respond to Excessive Radiation Levels

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
Radiation Control	2.3.4	Knowledge of radiation exposure limits under normal or emergency conditions.	3.2	

Question:

An independent verification by a second operator is normally required to verify alignments of safety related components, but does NOT have to be performed if an excessive radiation dose would be received.

IAW AP 0155, Current System Valve and Breaker Lineup and Identification, which ONE of the following is the threshold limit for when the independent verification may be waived when the dose received would exceed:

	Answer/Distractor	Justification
a.	10 mrem	Incorrect -
b.	20 mrem	Correct – IAW AP 0155
c.	30 mrem	Incorrect -
d.	40 mrem	Incorrect -

Static Simulator Exams: None

Last Revised: 02/01/2013 by BLS

## **Question #72**

Vermont Yankee LOI Exam Bank Question Number 7556 Revision 3

Instructor Guide: LOT-00-601 OFF-NORMAL PROCEDURES

Objectives: EO7

References: VY 2009 NRC exam

OPON-3153-01

9 - 3 E 6

OP-2182, P&L #1

Reference Open/Closed: Closed

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Fundamental Knowledge/Memory

Task Associations

**Task Number Task Title**

2000610504 Respond to Excessive Radiation Levels

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
Generic	2.3.14	Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities.	3.4	3.8

Question:

Consider the following:

In accordance with OPON-3153-01, Excessive Radiation Levels, which one of the following indications would alert an operator of a possible leak into the Reactor Building Closed Cooling Water (RBCCW) system?

	Answer/Distractor	Justification
a.	A rise in suction pressure to the RBCCW Pumps and a concurrently lowering of the Fuel Pool water level.	Incorrect - There is no correlation between a lowering fuel pool level and rising RBCCW suction pressure.
b.	Hi radiation alarm on the RBCCW Process Radiation Monitor and rising level in the RBCCW Surge Tank.	Correct - Per ON-3153, If the RBCCW radiation monitor indicates a high radiation level: Isolate the RCU system and check surge tank level indication to determine if the leak has been isolated, If the RBCCW surge tank level continues to increase, shift to the standby fuel pool cooling heat exchanger and continue to monitor surge tank level.
c.	A rise in the radiation levels in the vicinity	Incorrect -Rising rad levels around

	of RBCCW system piping or components and high temperatures on the operating CRD Pump.	RBCCW piping is a valid indication of a leak per OP-2182, P&L #1 Be aware of normal radiation levels in the vicinity of the system. Any appreciable rise in these radiation levels can indicate a possible leak into the RBCCW system. RBCCW supplies bearing and oil coolers on the CRD Pump, therefore, high CRD pump temperatures could indicate a lower RBCCW flow and not a leak into the RBCCW system.
d.	Hi radiation alarm on the Service Water (SW) Process Radiation Monitor with concurrent indication of a RBCCW heat exchanger tube leak.	Incorrect - A high radiation level in the SW system would indicate a leak into the SW system however by OP 2181 App B the SW system is maintained at a higher pressure than the RBCCW system, so leakage would be into the RBCCW system.

Static Simulator Exams: None

Last Revised: 2-4-13 by BLS

## **Question #73**

Vermont Yankee LOR Exam Bank Question Number 2225 Revision 2

System:

Instructor Guide: LOT-00-610 EOP-1, RPV CONTROL; EOP-2, ATWAS RPV CONTROL

Objectives: 2.4.1

References: EOP Study Guide

Reference Open/Closed: Open

SRO Only: No Style: Multiple Choice Category: Plant Proficiency

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Comprehension

Task Associations

Task Number	Task Title
2000310501	Respond to Low Reactor Water Level

Knowledge and Abilities Associations:

System	K/A No.	Statement	RO	SRO
Conduct of Operations	2.4.1	Knowledge of EOP entry conditions and immediate action steps.	4.6	4.8

Question:

Given the following conditions:

- Off-site power has been lost (LNP) and a large break LOCA has occurred
- The 'A' EDG failed to start
- DW pressure is 28 psig and slowly lowering
- Reactor pressure is 50 psig and lowering
- Reactor level is off scale low

The required actions are to enter EOP 1 and \_\_\_\_\_.

	Answer/Distractor	Justification
a.	EOP 3 and confirm 2 RHR pumps, 1 CS pump injecting.	Correct – A large break LOCA has produced EOP 3 entry conditions.
b.	EOP 3 and confirm HPCI, RCIC, 2 RHR pumps, 1 CS pump injecting.	Incorrect - HPCI will have isolated on low steam supply pressure and can not inject.
c.	EOP 4 and confirm 4 RHR pumps, 2 CS pumps injecting.	Incorrect - The 'A' EDG start failure causes a loss of 4 KV Bus 4, and 3 of 6 low pressure ECCS pumps are without power.

d.	EOP 4 and confirm 1 RHR pump, 1 CS pump injecting.	Incorrect - There is one RHR pump in each RHR loop powered from each EDG, 2 RHR pumps will be running and injecting. There are no entry conditions for EOP 4.
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Static Simulator Exams: None

Last Revised: 2-5-13 by BLS



## **Question # 74**

Vermont Yankee LOR Exam Bank Question Number 1696 Revision 2

System: 344 ABNORM Abnormal/Emergency Operations

Instructor Guide: LOT-00-611 EOP-4, SECONDARY

**CONTAINMENT/RADIOACTIVITY RELEASE CONTROL**

Objectives: RO-4

References: VY EOP Man Vol 4

Justification: Water level is above max Normal Operating Water Level of 1" in the RCIC room, which is an EOP-4 entry condition and 3158 entry condition.

Reference Open/Closed: Open

SRO Only: No Style: Multiple Choice Category: Limits & Controls

Point Value: 1 Time to Complete (Minutes): 4

Question Level: Analysis

Task Associations

**Task Number Task Title**

2007220501 Respond to Reactor Building High area Temperature/Water Level

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
Generic	2.4.8	Knowledge of how abnormal operating procedures are used in conjunction with EOPs.	3.8	4.5

Question:

A fire protection header rupture has resulted in 5 inches of water in the RCIC Room.

The leak has been isolated and all available sump pumps are operating to reduce levels in the space.

For these conditions:

	Answer/Distractor	Justification
a.	Entry into ON-3158, Reactor Building High Area Temperature/Water Level, ONLY, is required as the leak has been isolated.	Incorrect - Good distractor as student will think actions to isolate are complete and levels lowering, no reason to go further in redundant procedure.
b.	Entry into EOP-4, Secondary Containment and Radioactivity Release Control, ONLY, is required because EOP action takes precedence over ON procedures.	Incorrect -Good distractor as student will think actions to isolate are complete and levels lowering, no reason to go further in a redundant procedure.
c.	Entry into ON-3158, Reactor Building High Area Temperature/Water Level, is required, and entry into EOP-4, Secondary	Incorrect -Good distractor to a student that does not understand the basis, both are required when hit the entry limits

	Containment and Radioactivity Release Control, will be required only if water level cannot be reduced or the leak cannot be isolated.	regardless of status. Start in ON and progress to EOP as condition worsens would be a logical sequence.
d.	Entry into ON-3158, Reactor Building High Area Temperature/Water Level, and EOP-4, Secondary Containment and Radioactivity Release Control, is required because EOP's and ON's are implemented concurrently when entry conditions are met.	Correct Response-As required by entry conditions.

Static Simulator Exams: None

Last Revised: 2-6-13 by BLS

## **Question # 75**

Vermont Yankee LOI Exam Bank Question Number 2387 Revision 4

Instructor Guide: LOT-00-607 EOP-3, PRIMARY CONTAINMENT CONTROL

Objectives: RO EO3

References: EOP Study Guide (Volume 4) section 8 page 23

Reference Open/Closed: Open, provide DWS/L curve

SRO Only: No Style: Multiple Choice

Point Value: 1 Time to Complete (Minutes): 1

Question Level: Comprehension

Task Associations

**Task Number Task Title**

3450120102/0 Direct Manual Initiation of Containment Spray

3

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
Generic	2.4.18	Knowledge of the specific bases for EOPs.	3.3	4.0

Question:

In EOP-3, Primary Containment Control, the Pressure Control Leg gives direction to spray the Drywell, when Torus pressure exceeds 10 psig.

The basis for initiating Drywell Sprays when Torus pressure exceeds this value is to\_\_\_\_\_.

	Answer/Distractor	Justification
a.	prevent the Drywell Spray Initiation Limit (DWSIL) curve from being exceeded.	Incorrect - Drywell sprays are initiated when torus pressure exceeds the Suppression Chamber Spray Initiation Pressure (SCSIP) to preclude chugging-the cyclic condensation of steam at the downcomer openings of the drywell vents.
b.	ensure that the PCPL-A limit is not exceeded, due to excessive containment pressure.	Incorrect - Drywell sprays are initiated when torus pressure exceeds the Suppression Chamber Spray Initiation Pressure (SCSIP) to preclude chugging-the cyclic condensation of steam at the downcomer openings of the drywell vents.
c.	prevent the cyclic condensation of steam (chugging), at the downcomer openings of the Drywell vents.	Correct Response- Drywell sprays are initiated when torus pressure exceeds the Suppression Chamber Spray Initiation Pressure (SCSIP) to preclude chugging-the

		cyclic condensation of steam at the downcomer openings of the drywell vents.
d.	ensure that enough time is available to prepare for RPV-ED, if sprays are not effective.	Incorrect - Drywell sprays are initiated when torus pressure exceeds the Suppression Chamber Spray Initiation Pressure (SCSIP) to preclude chugging-the cyclic condensation of steam at the downcomer openings of the drywell vents.

Static Simulator Exams: None

Last Revised: 2-6-13 by BLS