ILT41 ONS SRO NRC Examination QUESTION 76 76

C

APE008 AA2.30 - Pressurizer (PZR) Vapor Space Accident (Relief Valve Stuck Open)
Ability to determine and interpret the following as they apply to the Pressurizer Vapor Space Accident: (CFR: 43.5 / 45.13)
Inadequate core cooling .....

Given the following Unit 1 conditions:

Initial conditions:
- Reactor tripped from 100% power due to a transient
- PORV is failed OPEN
- 1RC-4 will not CLOSE
- Multiple equipment failures have occurred

Current conditions:
- EOP ICC tab in progress
- CETCs = 754°F increasing
- The TSC concurs with starting RCP(s)

In accordance with the ICC tab:

1) __(1)__ will be started.

2) If required, RCP starting interlocks __(2)__ be bypassed to start the RCP(s).

Which ONE of the following completes the statements above?

A. 1. ONLY 1 RCP
   2. will

B. 1. ONLY 1 RCP
   2. will NOT

C. 1. 1 RCP/loop
   2. will

D. 1. 1 RCP/loop
   2. will NOT

ILT41 ONS SRO NRC Examination QUESTION 76

76

C

General Discussion

Answer A Discussion

Incorrect. First part is plausible because during HPI F/C on RCP is left operating to limit heat input to the RCS. Second part is correct.

Answer B Discussion

Incorrect. First part is plausible because during HPI F/C on RCP is left operating to limit heat input to the RCS. Second part is plausible because in other places in the EOP, below 700 degrees, RCP interlocks will not be bypassed.. Example: LOHT tab If there is no heat transfer and SCM > 0 degrees then 1 RCP is started but interlocks are not bypassed.

Answer C Discussion

Correct. In accordance with EOP ICC tab steps 39 and 40, 1RCP/loop will be started and RCP starting interlocks will be bypassed as required.

Answer D Discussion

Incorrect. First part is correct. Second part is plausible because in other places in the EOP, below 700 degrees, RCP interlocks will not be bypassed.. Example: LOHT tab If there is no heat transfer and SCM > 0 degrees then 1 RCP is started but interlocks are not bypassed.

Basis for meeting the KA

Question requires knowledge of the ICC tab which was entered as a result of Pzr vapor space accident.

Basis for Hi Cog

Basis for SRO only

In accordance with Clarification Guidance for SRO-only Questions, this question requires assessing plant conditions (RCS temp) and selecting a section of a procedure with which to proceed (starting RCPs). Also requires detailed knowledge of the content of the procedure specific to the section being performed (how many RCPs will be started and will interlocks be bypassed).

The question is not systems knowledge.
The question is not Immediate Operator Actions.
The question cannot be answered from knowledge of entry conditions.
This question requires more specific knowledge than knowledge of the major mitigation strategy of the procedure.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	NEW	

Development References	Student References Provided
EAP-ICC R7 EOP ICC tab	

APE008 AA2.30 - Pressurizer (PZR) Vapor Space Accident (Relief Valve Stuck Open)
Ability to determine and interpret the following as they apply to the Pressurizer Vapor Space Accident: (CFR: 43.5 / 45.13)
Inadequate core cooling .....

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 77 77 **B**

APE015/017 AA2.09 - Reactor Coolant Pump (RCP) Malfunctions
Ability to determine and interpret the following as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow): (CFR 43.5 / 45.13)
When to secure RCPs on high stator temperatures . . . . . .

Given the following Unit 1 conditions:

Initial conditions:
- Reactor power = 70%

Current conditions:
- 1A1 RCP Motor Stator temperature = 302°F stable
- 1A1 Seal Return Temperature = 205°F stable

1) The 1A1 RCP is required to be secured due to high ___(1)___ temperature in accordance with AP/16 (Abnormal RCP Operation).

2) After the RCP is secured, maximum reactor power is limited to prevent exceeding ___(2)___ limits in accordance with TS 3.4.4 (RCS Loops – MODES 1 and 2) bases.

Which ONE of the following completes the statements above?

A. 1. Motor Stator
   2. KW/foot

B. 1. Motor Stator
   2. DNB

C. 1. Seal Return
   2. KW/foot

D. 1. Seal Return
   2. DNB

ILT41 ONS SRO NRC Examination QUESTION 77

77

B

General Discussion

Answer A Discussion

Incorrect. First part is correct. Second part is plausible because limiting reactor power limits KW/ft.

Answer B Discussion

Correct. Per AP/16 the RCP must be secured if stator temperature exceeds 195 degrees. IAW TS B3.4.4 DNB is the concern.

Answer C Discussion

Incorrect. First part is plausible because if seal return temperature were > 260 degrees this would be correct. Second part is plausible because limiting reactor power limits KW/ft.

Answer D Discussion

Incorrect. First part is plausible because if seal return temperature were > 260 degrees this would be correct. Second part is correct.

Basis for meeting the KA

Question requires knowledge of when to secure a RCP on high stator temperature and interpret the consequences of securing the pump.

Basis for Hi Cog

Basis for SRO only

This question requires knowledge of the consequenses of securing the RCP and from the basis of TS 3.4.4 that is not systems knowledge.

It cannot be answered by knowing 1 hr or less TS/TRM Action
It cannot be answered solely with "above the line" information.
It cannot be answered solely by knowing Safety Limits

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Memory	NEW	

Development References
ADM-TSS R5 TSB 3.4.4 AP/16

Student References Provided

APE015/017 AA2.09 - Reactor Coolant Pump (RCP) Malfunctions
Ability to determine and interpret the following as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow): (CFR 43.5 / 45.13)
When to secure RCPs on high stator temperatures . . . . . .

401-9 Comments:

Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 78

78

A

APE025 2.1.20 - Loss of Residual Heat Removal System (RHRS)
APE025 GENERIC
Ability to interpret and execute procedure steps. (CFR: 41.10 / 43.5 / 45.12)

Given the following Unit 1 conditions:

Initial conditions:
- Reactor in MODE 6
- Fuel Transfer Canal full
- SF-1 and SF-2 are open

Current conditions:
- Fuel Transfer Canal level slowly decreasing
- RBNS level increasing
- AP/26 (Loss of Decay Heat Removal) in progress

Which one of the following describes the action that would be performed FIRST, in accordance with AP/26, and why?

A. Secure ALL LPI Pumps to determine if leak is on discharge of LPI Pumps

B. Secure ALL LPI Pumps in preparation for closing 1SF-1 and 1SF-2

C. Secure SF Cooling pump used for Refueling Cooling Mode to determine if leak is on discharge of SF Cooling Pump

D. Secure SF Cooling pump used for Refueling Cooling Mode in preparation for closing 1SF-1 and 1SF-2

ILT41 ONS SRO NRC Examination QUESTION 78

78

A

General Discussion

Answer A Discussion

Correct. Once you make your way to the correct section of AP/26 , it will direct securing all LPI pumps in an effort to determine the location and isolability of the leak. If securing the pumps do not change the leak rate then they will be restarted.

Answer B Discussion

Incorrect. First part is correct. Second part is plausible since the current SFC alignment in the refueling mode provides for taking a suction off the fuel transfer canal via the decay heat drop line and discharging to the SFP. That alignment must be secured prior to closing SF-1 and 2 to prevent pumping FTC to SFP however it is the B SF pump being used in this alignment and not the LPI pumps.

Answer C Discussion

Incorrect. Plausible since the B SFC Pump is being used in the Refueling Mode alignment and securing the pump and monitoring leak rate could help determine if the source of the leak is on the discharge of SFC pump. Since the Fuel Transfer Canal is full, securing the pump is plausible. Additionally, this action is actually directed by AP/26 although it is a later action after transferring to the condition specific section of the AP. It is the LPI pumps that are initially secured.

Answer D Discussion

Incorrect. Plausible since the SFC pumps are secured later in AP/26 prior to closing SF-1 and 2 to prevent pumping FTC to SFP.

Basis for meeting the KA

Requires knowledge of actions taken in AP/26 based on a decreasing fuel transfer canal and the ability to interpret the results of those actions to determine location and isolability of Fuel Transfer Canal leak.

Basis for Hi Cog

Basis for SRO only

In accordance with Rev. 1 of "Clarification Guidance for SRO-only Questions":

This first part of this question requires detailed knowledge of specific procedure steps in AP/26. Knowledge of these steps are used to select which section of the procedure is to be performed. There are several sections of Subsequent Actions that could be performed based on the conditions requiring entry into the AP and using knowledge of the entry conditions and assessing the different sections of Subsequent actions is required to determine the appropriate steps to perform. Additionally, this question requires detailed knowledge of specific steps that need to be taken prior to transfer to section 4D. In this specific case, the LPI pumps are secured to assess the impact on the decreasing fuel transfer canal level. In this situation it is after these steps are performed that you make the transfer to section 4D which will direct stopping the SF Pump. This path through the AP means that to get to the appropriate actions you must assess plant conditions and determine a section of the procedure with which to proceed.

This question cannot be answered bases solely on systems knowledge since when in MODE 6 with fuel transfer canal full it would be normal to have LPI pumps running AND the B Spent Fuel Cooling pump aligned in the Refueling Cooling mode. Also, neither reason given for securing pumps would eliminate either answer based on system knowledge.
This question cannot be answered bases solely on knowledge of entry conditions.
None of the operator actions are Immediate Operator Actions of the AP.
The knowledge needed is more detail than just the major mitigation strategy of the AP.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Memory	BANK	ONS 2009B Q78

Development References
EAP-APG R8 AP/26 ONS 2009B Q78

Student References Provided

APE025 2.1.20 - Loss of Residual Heat Removal System (RHRS)
APE025 GENERIC
Ability to interpret and execute procedure steps. (CFR: 41.10 / 43.5 / 45.12)

401-9 Comments:

Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 79 79

C

APE054 2.1.7 - Loss of Main Feedwater (MFW)
APE054 GENERIC
Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation. (CFR: 41.5 / 43.5 / 45.12 / 45.13)

Given the following Unit 1 conditions:

Time = 0400
- Reactor power = 100%

Time = 0405
- Loss of ALL Main and Emergency Feedwater
- RCS temperature is increasing
- LOHT tab in progress

Time = 0425
- Core SCM = 0°F due to the RCS heatup

The CRSRO will ___(1)___ and will direct ___(2)___.

Which ONE of the following completes the statement above?

A. 1. transfer to the LOSCM tab
   2. initiating Rule 2 (Loss of SCM)

B. 1. transfer to the LOSCM tab
   2. initiating full depressurization of both SGs

C. 1. remain in the LOHT tab
   2. initiating Rule 4 (Initiation of HPI Forced Cooling)

D. 1. remain in the LOHT tab
   2. an operator to perform Encl 5.34 (Aligning SSF-ASW for SG Feed)

ILT41 ONS SRO NRC Examination QUESTION 79

79

C

General Discussion

Answer A Discussion

Incorrect. First part is plausible because if the loss of SCM was not due to heating up this would be correct. Second part is plausible because Rule 2 would still be initiated in this case.

Answer B Discussion

Incorrect. First part is plausible because if the loss of SCM was not due to heating up this would be correct. Second part is plausible because this would be performed if HPI was degraded.

Answer C Discussion

Correct. Per a note in the LOHT tab "Transfer to LOSCM tab is NOT required if RCS heats to the point where core SCM = 0°F.". Per the LOHT tab if the RCS heats up to the point where core SCM = O degrees then Rule 4 will be initiated.

Answer D Discussion

Incorrect. First part is correct. Second part is plausible because this would be done if HPI F/C was not adequate.

Basis for meeting the KA

Question requires making operational judgments based on plant conditions caused by a loss of Main FDW. In this case selecting the correct procedure to mitigate the event.

Basis for Hi Cog

Basis for SRO only

In accordance with Clarification Guidance for SRO-only Questions, this question requires assessing plant conditions and selecting a procedure with which to proceed to mitigate the event.

It cannot be answered by just knowing entry conditions. It requires detailed knowledge of the content of the procedure to make the correct choice to stay or transfer to another EOP tab.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	NEW	

Development References	Student References Provided
LOHT tab LOSCM tab	

APE054 2.1.7 - Loss of Main Feedwater (MFW)

APE054 GENERIC

Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation. (CFR: 41.5 / 43.5 / 45.12 / 45.13)

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 80

80

A

APE058 2.2.38 - Loss of DC Power
APE058 GENERIC
Knowledge of conditions and limitations in the facility license. (CFR: 41.7 / 41.10 / 43.1 / 45.13)

Given the following plant conditions:

Initial conditions:
- Date 4/5
- All three Oconee Units at 100% power
- Time = 1100
- 3KVIB panelboard de-energized

Current conditions:
- Time = 1200
- DC panelboard 3DIC is de-energized

1) Tech Spec LCO 3.8.8 (Distribution Systems-Operating) is NOT met for __(1)__.

2) The bases behind the different Completion Times for inoperable Vital Instrument and Control panelboards __(2)__.

Which ONE of the following completes the statements above?

REFERENCE PROVIDED

A. 1. Unit 3 ONLY
   2. KVIA AND KVIB have shorter completion times due to being the source of power for the ES Voters

B. 1. Unit 3 ONLY
   2. KVIA AND KVIB have shorter completion times due to providing power for SK and SL breakers protective relaying

C. 1. Units 1, 2, AND 3
   2. KVIA AND KVIB have shorter completion times due to being the source of power for the ES Voters

D. 1. Units 1, 2, AND 3
   2. KVIA AND KVIB have shorter completion times due to providing power for SK and SL breakers protective relaying

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ILT41 ONS SRO NRC Examination QUESTION 80

80

A

General Discussion

Answer A Discussion

Correct. 3DIC OOS will result in entering TS 3.8.8 Conditions C. KVIA and KVIB have shorter completion times due to powering the ES Voters.

Answer B Discussion

Incorrect: : First part is Correct. Second part is plausible since SK and SL breakers protective relaying is singled out in the electrical specs as unique. It is unique because unit 1's DIC and DID panelboards provide power to these breakers that all 3 units rely on. The fact that the power for SK and SL breakers comes from a units power panelboards and is singled out as unique in the electrical specs combine to make this a plausible distractor since Condition F is itself unique for other reasons. Additionally, the breakers are getting power from the "c" and "d" strings of panelboards however it is from the DC panelboards instead of the AC panelboards.

Answer C Discussion

Incorrect. First part is plausible because it would be correct if it were 1DIC. Second aprt is correct.

Answer D Discussion

Incorrect. First part is plausible because it would be correct if it were 1DIC. Second part is plausible since SK and SL breakers protective relaying is singled out in the electrical specs as unique. It is unique because unit 1's DIC and DID panelboards provide power to these breakers that all 3 units rely on. The fact that the power for SK and SL breakers comes from a units power panelboards and is singled out as unique in the electrical specs combine to make this a plausible distractor since Condition F is itself unique for other reasons. Additionally, the breakers are getting power from the "c" and "d" strings of panelboards however it is from the DC panelboards instead of the AC panelboards.

Basis for meeting the KA

Requires tracking previously entered TS LCO's and then correctly applying that to a subsequent inoperability to determine the correct actions required by Tech Specs.

Basis for Hi Cog

Basis for SRO only

Requires applying the generic LCO 3.0.3 rule to a situation where there are insufficient TS Conditions to cover all inoperability's that exist. This requirement is unique to the SRO position

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	MODIFIED	ONS 2009A SRO Q#80

Development References	Student References Provided
TS 3.8.8 and bases, EL-DCD	TS 3.8.8

APE058 2.2.38 - Loss of DC Power
APE058 GENERIC
Knowledge of conditions and limitations in the facility license. (CFR: 41.7 / 41.10 / 43.1 / 45.13)

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 81

81

D

BWE04 EA2.1 - Inadequate Heat Transfer
Ability to determine and interpret the following as they apply to the (Inadequate Heat Transfer)
(CFR: 43.5 / 45.13)
Facility conditions and selection of appropriate procedures during abnormal and emergency operations.

Given the following Unit 1 conditions:

Initial conditions:
- Reactor power = 100%

Current conditions:
- ALL CBPs, Main and Emergency FDW pumps have tripped
- 2SA-18/A-11 (TURBINE BSMT WATER LEVEL EMERGENCY HIGH) actuated
- The SRO has completed verification of IMAs

1) The SRO will transfer to the __(1)__ tab of the EOP.

2) The next method that will be used to remove decay heat is __(2)__ in accordance with the procedure identified above.

Which ONE of the following completes the statements above?

A. 1. TBF
   2. feeding with the SSF ASW pump

B. 1. TBF
   2. initiation of HPI Forced Cooling

C. 1. LOHT
   2. feeding with the SSF ASW pump

D. 1. LOHT
   2. initiation of HPI Forced Cooling

ILT41 ONS SRO NRC Examination QUESTION 81

81

D

General Discussion

Answer A Discussion

Incorrect. First part is plausible because although the entry conditions are met to transfer to the TBF tab, LOHT is a higher priority. Second part is plausible because in the TBF tab feeding with the SSF ASW pump would be the next method. Also if HPI F/C is not successful then feeding with the SSF ASW pump would be performed.

Answer B Discussion

Incorrect. First part is plausible because although the entry conditions are met to transfer to the TBF tab, LOHT is a higher priority. Second part is plausible because in the TBF tab feeding with the SSF ASW pump would be the next method. Also if HPI F/C is not successful then feeding with the SSF ASW pump would be performed.

Answer C Discussion

Incorrect. First part is correct. Second part is plausible because in the TBF tab feeding with the SSF ASW pump would be the next method. Also if HPI F/C is not successful then feeding with the SSF ASW pump would be performed.

Answer D Discussion

Correct. LOHT is the highest priority tab that applies at this time. In the LOHT tab HPI F/C is the next method to remove decay heat.

Basis for meeting the KA

The question requires the candidate to evaluate plant conditions and determine that a LOHT conditions and a TBF exist and then pick the appropriate procedure to use to mitigate the event.

Basis for Hi Cog

Basis for SRO only

In accordance with "Clarification Guidance for SRO-only Questions" Rev 1 this question is at the SRO level as described below:

The question requires "Assessing plant conditions (normal, abnormal, or emergency) and then selecting a procedure or section of a procedure to mitigate, recover, or with which to proceed." The entry conditions for two EOP tabs exist. It is SRO knowledge to determine the highest priority tab.

The question cannot be answered solely by knowing "systems knowledge", i.e., how the system works, flow path, logic, component location.

The question cannot be answered solely by knowing immediate operator actions.

The question cannot be answered solely by knowing entry conditions for AOPs or plant parameters that require direct entry to major EOPs.

The question cannot be answered solely by knowing the purpose, overall sequence of events, or overall mitigative strategy of a procedure?

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	NEW	

Development References
EOP SA EOP LOHT Tab EOP TBF Tab

Student References Provided

BWE04 EA2.1 - Inadequate Heat Transfer
Ability to determine and interpret the following as they apply to the (Inadequate Heat Transfer)
(CFR: 43.5 / 45.13)
Facility conditions and selection of appropriate procedures during abnormal and emergency operations.

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 82 82

C

APE036 2.1.32 - Fuel Handling Incidents
APE036 GENERIC
Ability to explain and apply system limits and precautions. (CFR: 41.10 / 43.2 / 45.12)

Given the following Unit 1 conditions:

Initial conditions:
- Re-fueling in progress

Current conditions:
- A fuel assembly is damaged while inserting into the core
- An adjacent assembly must be placed in an alternate core location while recovering the damaged assembly

Which ONE of the following states the MINIMUM level of approval required to place a fuel assembly into an alternate location other than the original one assigned by the Core Reload Sequence in accordance with MP/0/A/1500/009 (Defueling/Refueling Procedure) Limits and Precautions?

A. Refueling SRO Assistant

B. Reactor Building SRO

C. Refueling SRO

D. OSM

ILT41 ONS SRO NRC Examination QUESTION 82

82

C

General Discussion

Answer A Discussion

Incorrect. Plausible since this position is involved in the step by step implementation of the refueling procedures and this position is the one required to administratively verify that the assembly is being inserted into the position required by the procedure.

Answer B Discussion

Incorrect. Plausible since this is an SRO position required to be inside the Rx Bldg during core alterations and it is a position required to be staffed by SLC 16.13.1 (Minimum Station Staffing Requirements). Additionally plausible since this position is responsible for the overall conduct of fuel handling operations in the Reactor Building.

Answer C Discussion

Correct. In accordance with the procedures use to control fuel handling activities:
During refueling, IF Any Fuel Assembly must be placed in a Core location other than the one assigned in PT/0/A/0750/018, Refueling Activities, then the alternate core location shall be evaluated by a Qualified Reactor Engineer and approved by the Refueling SRO.

Answer D Discussion

Incorrect. Plausible since in general the OSM is required to approve deviations from procedures. However, this specific case has more specific requirements in the procedure being used to perform the fuel movement.

Basis for meeting the KA

Question requires knowledge of Fuel Handling Limits and Precautions concerning bypassing Fuel Handling Bridge interlocks.

Basis for Hi Cog

Basis for SRO only

In accordance with Rev. 1 of "Clarification Guidance for SRO-only Questions":
This question requires knowledge of fuel handling procedures and knowledge of the requirements necessary to change/deviate from a plant procedure.
Additionally, this requires knowledge of an activity that is defined as an SRO only activity in plant procedures.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Memory	BANK	ONS 2009B Q91

Development References	Student References Provided
FH-FHS R27 Refueling Procedure (MP/0/1500/009)	

APE036 2.1.32 - Fuel Handling Incidents
APE036 GENERIC
Ability to explain and apply system limits and precautions. (CFR: 41.10 / 43.2 / 45.12)

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 83

83

A

APE028 AA2.10 - Pressurizer (PZR) Level Control Malfunction

Ability to determine and interpret the following as they apply to the Pressurizer Level Control Malfunctions: (CFR: 43.5 / 45.13)

Whether the automatic mode for PZR level control is functioning improperly, necessity of shift to manual modes .....

Given the following Unit 1 conditions:

Initial conditions:

- Reactor power = 100%
- Pressurizer (PZR) Level 2 selected
- SASS in MANUAL

Current conditions:

- ICCM Train "1A" experiences a total loss of power

1) 1HP-120 ___(1)___ required to be taken to MANUAL to prevent exceeding the Pzr level limit in TS 3.4.9 (Pressurizer).

2) The bases for the limit on Pzr level in TS 3.4.9 (Pressurizer) is to ___(2)___.

Which ONE of the following completes the statements above?

A. 1. is
   2. prevent exceeding the RCS pressure Safety Limit due to a subsequent Pzr insurge

B. 1. is
   2. ensure that a RCP start at power would not cause a pressure spike which would approach the RCS pressure Safety Limit

C. 1. is NOT
   2. prevent exceeding the RCS pressure Safety Limit due to a subsequent Pzr insurge

D. 1. is NOT
   2. ensure that a RCP start at power would not cause a pressure spike which would approach the RCS pressure Safety Limit

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ILT41 ONS SRO NRC Examination QUESTION 83

83

A

General Discussion

Answer A Discussion

Correct. ICCM Train "A" feeds Pzr level 1 and 2. A loss of power to 1A ICCM Train will cause Pzr Level 2 to fail low and cause 1HP-120 to fully open. The operator must take manual control of 1HP-120 to prevent the Pzr from exceeding the TS limit on level. TSB 3.4.9 states: "If the level limits were exceeded prior to a transient that creates a large pressurizer insurge volume, the maximum RCS pressure could exceed the design Safety Limit (SL) of 2750 psig."

Answer B Discussion

Incorrect. First part is correct. Second part is plausible because there are Pzr level limits associated with starting a RCP and misconception could be that the level limit was based on causing a pressure spike..

Answer C Discussion

Incorrect. Plausible because the candidate could have the misconception that Pzr level 2 was fed from ICCM Train 1B. Second part is correct.

Answer D Discussion

Incorrect. Plausible because the candidate could have the misconception that Pzr level 2 was fed from ICCM Train 1B. Second part is plausible because there are Pzr level limits associated with starting a RCP and misconception could be that the level limit was based on causing a pressure spike..

Basis for meeting the KA

Question requires the candidate to determine if 1HP-120 is required to be placed in manual for a given situation

Basis for Hi Cog

Basis for SRO only

In accordance with Clarification Guidance for SRO-only Questions:

This question requires knowledge from the basis of TS 3.4.9 that is not systems knowledge.
It cannot be answered by knowing 1 hr or less TS/TRM Action
It cannot be answered solely with "above the line" information.
It cannot be answered solely by knowing Safety Limits

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	NEW	

Development References	Student References Provided
PNS-PZR R35 TS B3.4.9	

APE028 AA2.10 - Pressurizer (PZR) Level Control Malfunction
Ability to determine and interpret the following as they apply to the Pressurizer Level Control Malfunctions: (CFR: 43.5 / 45.13)
Whether the automatic mode for PZR level control is functioning improperly, necessity of shift to manual modes .....

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 84 84 **B**

BWE03 EA2.2 - Inadequate Subcooling Margin
Ability to determine and interpret the following as they apply to the (Inadequate Subcooling Margin)
(CFR: 43.5 / 45.13)
Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.

Given the following Unit 1 conditions:

Initial conditions:
- Reactor power = 100%
- 1C HPI pump OOS
- SBLOCA occurs

Current conditions:
- ALL SCM's = "0"
- 1B HPI pump tripped and will NOT start

1) The LOSCM tab will give direction to depressurize BOTH SG's __(1)__.

2) 10CFR50.46 ECCS acceptance criteria __(2)__ be met.

Which ONE of the following completes the statements above?

A. 1. fully
   2. will

B. 1. fully
   2. will NOT

C. 1. to 250 psig
   2. will

D. 1. to 250 psig
   2. will NOT

ILT41 ONS SRO NRC Examination QUESTION 84

84

B

General Discussion

Answer A Discussion

Incorrect. First part is correct. Second part is plausible because it would be correct if power were below 75% when the event occurs.

Answer B Discussion

Correct. The LOSCM tab will direct depressurizing both SG because HPI (only one HPI pump is operating) is degraded. Per TS 3.5.2 bases the ECCS acceptance criteria will not be met with just one train of HPI because power is above 75% when the event occurred.

Answer C Discussion

Incorrect. First part is plausible because it would be correct if only the TDEFDW pump was operating. Second part is plausible because it would be correct if power were below 75% when the event occurs.

Answer D Discussion

Incorrect. First part is plausible because it would be correct if only the TDEFDW pump was operating. Second part is correct.

Basis for meeting the KA

Question requires knowledge of how to comply with the appropriate facility procedures during a loss of SCM.

Basis for Hi Cog

Basis for SRO only

This question requires knowledge from the basis of TS 3.5.2 (HPI) that is not systems knowledge.
It cannot be answered by knowing 1 hr or less TS/TRM Action
It cannot be answered solely with "above the line" information.
It cannot be answered solely by knowing Safety Limits

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	NEW	

Development References	Student References Provided
LOSCM tab TS B3.5.2	

BWE03 EA2.2 - Inadequate Subcooling Margin
Ability to determine and interpret the following as they apply to the (Inadequate Subcooling Margin)
(CFR: 43.5 / 45.13)
Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 85 85 **A**

BWE14 2.4.20 - EOP Enclosures
BWE14 GENERIC
Knowledge of the operational implications of EOP warnings, cautions, and notes. (CFR: 41.10 / 43.5 / 45.13)

Given the following Unit 1 conditions:

- SSF has been activated
- EOP Enclosure 5.34 (Aligning SSF-ASW for SG Feed) in progress

1) In accordance with a NOTE in Enclosure 5.34, the alignment of SSF Diesel Service Water discharge to the yard drain must be completed __(1)__ of the SSF Diesel emergency start.

2) A reason for the above action is to ensure continued operability of the SSF __(2)__.

Which ONE of the following completes the statements above?

A. 1. between 1 hour and 45 minutes and 2 hours
   2. HVAC system

B. 1. between 1 hour and 45 minutes and 2 hours
   2. ASW pump

C. 1. within 3 hours and 20 minutes
   2. HVAC system

D. 1. within 3 hours and 20 minutes
   2. ASW pump

ILT41 ONS SRO NRC Examination QUESTION 85

85

A

General Discussion

Answer A Discussion

Correct. The SSF Diesel Service Water discharge must be diverted to the yard drain between 1 hour and 45 minutes and 2 hours. This is done in part to ensure SSF HVAC operability.

Answer B Discussion

Incorrect: First part is correct. Second part is plausible since the ASW pump also takes a suction on the CCW crossover piping.

Answer C Discussion

Incorrect. First part is plasuible because 3 hours and 20 minutes the allowed time to Submersible pump in place after the SSF Diesel is emergerncy started. Second part is correct.

Answer D Discussion

Incorrect. First part is plasuible because 3 hours and 20 minutes the allowed time to Submersible pump in place after the SSF Diesel is emergerncy started. Second part is plausible since the ASW pump also takes a suction on the CCW crossover piping.

Basis for meeting the KA

Question requires knowledge of the operational implications of a NOTE in an EOP enclosure.

Basis for Hi Cog

Basis for SRO only

This question requires detailed knowledge of a NOTE in an EOP enclousre and the bases for the action taken.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	NEW	

Development References	Student References Provided
EAP-SSF EOP Encl. 5.34	

BWE14 2.4.20 - EOP Enclosures
BWE14 GENERIC
Knowledge of the operational implications of EOP warnings, cautions, and notes. (CFR: 41.10 / 43.5 / 45.13)

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 86 86

B

SYS006 2.4.40 - Emergency Core Cooling System (ECCS)
SYS006 GENERIC
Knowledge of SRO responsibilities in emergency plan implementation.

Given the following Unit 2 conditions:

Time = 0900
- Reactor power = 100%

Time = 0904
- ES Channels 1 & 2 actuated on low RCS Pressure
- The 2B and 2C HPI pumps failed to Auto start and cannot be started manually

Time = 0910
- ALL SCMs = 0°F stable
- RCS pressure = 1000 psig stable
- RB Pressure = 7 psig increasing
- 2RIA-57 = 200 R/HR increasing

Time = 0912
- 2RIA-57 = 350 R/HR stable
- RB Pressure = 1 psig rapidly decreasing

Without using the Emergency Coordinator Judgment option, which ONE of the following:

1) states the EAL classification required by the conditions at 0910?

2) states the EAL classification required by the conditions at 0912?

REFERENCE PROVIDED

A. 1. Alert
   2. Site Area Emergency

B. 1. Alert
   2. General Emergency

C. 1. Site Area Emergency
   2. Site Area Emergency

D. 1. Site Area Emergency
   2. General Emergency

ILT41 ONS SRO NRC Examination QUESTION 86

86

B

General Discussion

Answer A Discussion

Incorrect. First part is correct. Second part is plausible if the candidate does not realize that containment has been breached.

Answer B Discussion

Correct. First part is correct. At 0910 is an Alert based on 5 points for "RCS Leak rate that results in a loss of subcooling". Second part is correct. At 0920 a General Emergency is declared based on:
RCS Barrier - 5 points - Loss of subcooing or 2RIA-57 > 1.6 R/hr
Fuel Clad Barrier - 5 points - RIA-57 - > 300 R/hr < 30 minutes
Containment Barrier - 3 points - Containment isolation is incomplete…

Total points = 13 (General Emergency)

Answer C Discussion

Incorrect. First part is plausible because the candidate may add 4 points for RCS leak > 160 and Loss of SCM for a total of 9 points. This would be a SAE. Second part is plausible if they miss the containment breach.

Answer D Discussion

Incorrect. First part is plausible because the candidate may add 4 points for RCS leak > 160 and Loss of SCM for a total of 9 points. This would be a SAE. Second part is correct.

Basis for meeting the KA

Question requires knowledge of E Plan classification with a failure of ECCS components. This failure results in a loss of SCM. This is an SRO responsibility involving the Eplan.

Basis for Hi Cog

Basis for SRO only

This questions requires EAL determinations which are activities performed only by SRO's and have SRO specific objectives.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	NEW	

Development References	Student References Provided
RP/1000/001	RP/1000/001

SYS006 2.4.40 - Emergency Core Cooling System (ECCS)
SYS006 GENERIC
Knowledge of SRO responsibilities in emergency plan implementation.

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 87 87 **D**

SYS007 A2.01 - Pressurizer Relief Tank/Quench Tank System (PRTS)

Ability to (a) predict the impacts of the following malfunctions or operations on the P S; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: (CFR: 41.5 / 43.5 / 45.3 / 45.13)

Stuck-open PORV or code safety .....

Given the following Unit 1 conditions:

Time = 0400
- Reactor power = 100%
- BOTH Main FDW pumps trip

Time = 0403
- Reactor power = 68% decreasing
- RULE 1 (ATWS/UNPP) is complete
- 1RC-66 is failed open
- RCS pressure = 1920 psig decreasing

Time = 0410
- Reactor power = 5% decreasing
- UNPP tab in progress
- QT pressure = 12 psig increasing

1) The MINIMUM QT pressure which will result in reactor coolant being released to the RB atmosphere is __(1)__ psig.

2) If 1RC-4 will NOT close, the __(2)__ tab will be used to mitigate this event and place LPI in service.

Which ONE of the following completes the statements above?

A. 1. 49
   2. HPI CD

B. 1. 49
   2. LOCA CD

C. 1. 55
   2. HPI CD

D. 1. 55
   2. LOCA CD

ILT41 ONS SRO NRC Examination QUESTION 87

87

D

General Discussion

Answer A Discussion

Incorrect. First part is plausible because 49 psig is the highest pressure allowed in the QT per L&P of the QT operating procedure. Second part is plausible because the plant condition are very similar to being in HPI forced cooling. i.e. HPI pumps are operating and there is flow through the PORV. If in HPI forced cooling then transfer to HPI CD would be correct.

Answer B Discussion

Incorrect. First part is plausible because 49 psig is the highest pressure allowed in the QT per L&P of the QT operating procedure. Second part is correct.

Answer C Discussion

Incorrect. First part is correct. Second part is plausible because the plant condition are very similar to being in HPI forced cooling. i.e. HPI pumps are operating and there is flow through the PORV. If in HPI forced cooling then transfer to HPI CD would be correct.

Answer D Discussion

Correct. The QT rupture disk ruptures at 55 psig in the QT. Transfer to the LOCA CD tab will be made either from Subsequent Actions or if SCM is lost from LOSCM tab.

Basis for meeting the KA

Question requires knowledge of the impacts to the QT of the PORV being open and what EOP enclosure will give guidance on how to shut down to LPI.

Basis for Hi Cog

Basis for SRO only

In accordance with Clarification Guidance for SRO-only Questions, this question requires assessing plant conditions and selecting a procedure with which to proceed to mitigate the event.

It cannot be answered by just knowing entry conditions. It requires detailed knowledge of the content of the procedure to make the correct choice.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	NEW	

Development References
PNS-CS R7 OP/1104/017, QT Operation EOP IMAs LOSCM tab

Student References Provided

SYS007 A2.01 - Pressurizer Relief Tank/Quench Tank System (PRTS)

Ability to (a) predict the impacts of the following malfunctions or operations on the P S; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: (CFR: 41.5 / 43.5 / 45.3 / 45.13)

Stuck-open PORV or code safety .....

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 88

88

A

SYS061 A2.08 - Auxiliary / Emergency Feedwater (AFW) System

Ability to (a) predict the impacts of the following malfunctions or operations on the AFW; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: (CFR: 41.5 / 43.5 / 45.3 / 45.13)

Flow rates expected from various combinations of AFW pump discharge valves .....

Given the following Unit 1 conditions:

Initial conditions:

- Reactor power =100%
- BOTH Main FDW pumps trip

Current conditions:

- ALL EFDW pumps operating
- MDEFDWP DICH FLOW LOOP "A" = 100 gpm
- MDEFDWP DICH FLOW LOOP "B" = 150 gpm
- TOTAL EFDW FLOW 1A = 100 gpm
- TOTAL EFDW FLOW 1B = 275 gpm

1) The cause of these indications is __(1)__.

2) In accordance with TS 3.7.5, a MAXIMUM of__(2)__ is allowed to open the mis-positioned valve.

Which ONE of the following completes the statements above?

A. 1. 1FDW-368 (TDEFDWP DISCH TO 1A SG BLK) is CLOSED
   2. 72 hours

B. 1. 1FDW-368 (TDEFDWP DISCH TO 1A SG BLK) is CLOSED
   2. 7 days

C. 1. 1FDW-374 (1A MD EFDWP DISCHARGE to S/G A) is CLOSED
   2. 72 hours

D. 1. 1FDW-374 (1A MD EFDWP DISCHARGE to S/G A) is CLOSED
   2. 7 days

ILT41 ONS SRO NRC Examination QUESTION 88

88

A

General Discussion

Answer A Discussion

Correct. 1FDW-368 being closed will give these indications. 1FDW-368 being closed makes the TDEFDWP inoperable. TS 3.7.5 Condition B would be entered with a completion time of 72 hours.

Answer B Discussion

Incorrect. First part is correct. Second part is plausible because it would be correct if a MDEFDW pump were inoperable.

Answer C Discussion

Incorrect. First part is plausible because the candidate could have the misconception that 1FDW-374 is the 1A MDEFDWP dischagre valve and that it is down stream of the line from the TD EFDWP. Second part is correct.

Answer D Discussion

Incorrect. First part is plausible because the candidate could have the misconception that 1FDW-374 is the 1A MDEFDWP dischagre valve and that it is down stream of the line from the TD EFDWP. Second part is plausible because it would be correct if a MDEFDW pump were inoperable.

Basis for meeting the KA

Question requires evaluating plant data and determining which valve is misaligned and based on this information determine whether the affected EFDWP is operable. This inoperability would then lead to the taking the TS required action to correct the situation.

Basis for Hi Cog

Basis for SRO only

This question requires knowledge of TS 3.7.5 that is not systems knowledge.
It cannot be answered by knowing 1 hr or less TS/TRM Action
It cannot be answered solely with "above the line" information.
It cannot be answered solely by knowing Safety Limits

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	NEW	

Development References
ADM-TSS R5 EFDW Drawing TS 3.7.5

Student References Provided

SYS061 A2.08 - Auxiliary / Emergency Feedwater (AFW) System

Ability to (a) predict the impacts of the following malfunctions or operations on the AFW; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: (CFR: 41.5 / 43.5 / 45.3 / 45.13)

Flow rates expected from various combinations of AFW pump discharge valves .....

401-9 Comments:

Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 89 89

C

SYS063 2.4.12 - DC Electrical Distribution System
SYS063 GENERIC
Knowledge of general operating crew responsibilities during emergency | operations. (CFR: 41.10 / 45.12)

Given the following Unit 1 conditions:

Time = 0400:
- Station blackout in progress

Time = 0405
- OSM determines 1DCA (Control Battery Bus) is de-energized
- OSM and the STA discuss the 1DCA issue and develop a plan to restore it

Time = 0410
- Power restored to both Main Feeder Buses form KHU #1 and CT-1
- CT-5 is energized

Time = 0430
- 1DCA energized

1) In accordance with OMP 1-18 (Implementation Standard During Abnormal and Emergency Events), the __(1)__ will conduct the Focus Brief on restoration of the battery charger.

2) In accordance with RP/0/B/1000/001 (Emergency Classification) the highest emergency classification (if any) for the above sequence of events is __(2)__.

Which ONE of the following completes the statements above?

REFERENCE PROVIDED

A. 1. OSM ONLY
   2. none

B. 1. OSM ONLY
   2. Site Area Emergency

C. 1. OSM or the CRSRO
   2. none

D. 1. OSM or the CRSRO
   2. Site Area Emergency

ILT41 ONS SRO NRC Examination QUESTION 89

89

C

General Discussion

Answer A Discussion

Incorrect. First part is plausible because the OSM normally would conduct the Focus Brief. Second part is correct.

Answer B Discussion

Incorrect. First part is plausible because the OSM normally would conduct the Focus Brief. Second part is plausible because it would be correct if both DC buses were de-energized greater than 15 minutes.

Answer C Discussion

Correct. Per OMP 1-18, the OSM is responsible for the focused brief. However if the OSM is not available the CRSRO (PD) is allowed to conduct the brief. With only one DC bus de-energized for greater than 15 minutes then this event does not meet a classification threshold.

Answer D Discussion

Incorrect. First part is correct. Second part is plausible because it would be correct if both DC buses were de-energized greater than 15 minutes.

Basis for meeting the KA

Question requires knowledge of the OSM and the CRSRO responsibilities during an emergency involving a part of the DC system.

Basis for Hi Cog

Basis for SRO only

Question requires knowledege of OSM resonsibilities during an emergemcy including emergency plan classification.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	NEW	

Development References
ADM-OMP OMP 1-18 RP/0/B/1000/001

Student References Provided
RP/0/B/1000/001

SYS063 2.4.12 - DC Electrical Distribution System
SYS063 GENERIC
Knowledge of general operating crew responsibilities during emergency | operations. (CFR: 41.10 / 45.12)

401-9 Comments:

Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 90

90

A

SYS064 2.2.22 - Emergency Diesel Generator (ED/G) System
SYS064 GENERIC
Knowledge of limiting conditions for operations and safety limits. (CFR: 41.5 / 43.2 / 45.2)

Given the following Unit 1 conditions:

Initial conditions:
- Reactor power = 100%
- ACB-3 closed

Which ONE of the following will make the overhead emergency power path inoperable in accordance with TS 3.8.1 (AC Sources Operating) Bases?

A. ACB-2 inoperable

B. Zone overlap interlock inoperable

C. ACB-1 to ACB-3 interlock inoperable

D. One channel of Switchyard Isolation inoperable

ILT41 ONS SRO NRC Examination QUESTION 90

90

A

General Discussion

Answer A Discussion

Correct. Per the table in TS B3.8.1 if ACB-3 is closed it designates KHU #1 as the underground unit. If KHU #1 is the underground unit then if ACB-2 is inoperable it will make the overhead power path inoperable.

.

Answer B Discussion

Incorrect. Plausible because Zone Overlap is an LCO for TS 3.8.1 but does not make the overhead power path inoperable.

Answer C Discussion

Incorrect. Plausible because it would be correct if ACB-4 were closed.

Answer D Discussion

Incorrect. Plausible because it would be correct if both channels were inoperable

Basis for meeting the KA

Requires adherence the Tech Specs in support of limiting conditions for operation. The overhead path is one of two ways the Keowee units get power to the nuclear units.

Basis for Hi Cog

Basis for SRO only

This question requires knowledge from the basis of TS 3.8.1 that is not systems knowledge.
It cannot be answered by knowing 1 hr or less TS/TRM Action
It cannot be answered solely with "above the line" information.
It cannot be answered solely by knowing Safety Limits

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Memory	NEW	

Development References	Student References Provided
TS B3.8.1 TS 3.8.1	

SYS064 2.2.22 - Emergency Diesel Generator (ED/G) System
SYS064 GENERIC
Knowledge of limiting conditions for operations and safety limits. (CFR: 41.5 / 43.2 / 45.2)

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 91

91

C

SYS016 A2.02 - Non-Nuclear Instrumentation System (NNIS)

Ability to (a) predict the impacts of the following malfunctions or operations on the NNIS; and (b) based on those predictions, use or mitigate the consequences of those malfunctions or operations: (CFR: 41.5 / 43.5 / 45.3 / 45.5)

Loss of power supply .....

Given the following Unit 1 conditions:

Initial conditions:

- Time = 0400
- Reactor power = 100%

Current conditions:

- Time = 0415
- HPI X-OVER LOOP "A" flow instrument loses power

1) If at 0400, ES Channels 1 – 8 actuated the HPI X-OVER LOOP "A" flow instrument __(1)__ indicate flow.

2) At 0415, TS 3.5.2 (HPI) CONDITION "A" __(2)__ required to be entered.

Which ONE of the following completes the statements above?

REFERENCE PROVIDED

A. 1. would
   2. is

B. 1. would
   2. is NOT

C. 1. would NOT
   2. is

D. 1. would NOT
   2. is NOT

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ILT41 ONS SRO NRC Examination QUESTION 91

91

C

General Discussion

Answer A Discussion

Incorrect. First part is plausible because the candidate could have the misconception that the X-over flow instrument was in the normal flow path. Second part is correct.

Answer B Discussion

Incorrect. First part is plausible because the candidate could have the misconception that the X-over flow instrument was in the normal flow path. Second part is plausible because the candidate could have the misconception that the x-over flow instrument was not required for x-over valve operability.

Answer C Discussion

Correct. During a ES actuation would out any failures, flow would not be indicated on the X-over instrument. Per TS 3.5.2 Bases the x-over flow instrument is required for the crossover valves to be operable. As a result Condition A will be entered.

Answer D Discussion

Incorrect. First part is correct. Second part is plausible because the candidate could have the misconception that the x-over flow instrument was not required for x-over valve operability.

Basis for meeting the KA

Question requires knowledge concerning the affect of a loss of NNI power to an HPI flow instrument and TS condition required to be entered as a result of the failure.

Basis for Hi Cog

Basis for SRO only

In accordance with Rev. 1 of "Clarification Guidance for SRO-only Questions":
Requires knowledge from the Bases of TS 3.5.2 (HPI) regarding requirement of HPI X-over flow instrumentation on X-over valve operability and is not system knowledge information.

This question cannot be answered Solely on 1 hr or less TS knowledge.
This question cannot be answered based on "above the line" TS information.
This question cannot be answered with TS Safety Limit information.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	NEW	

Development References
TS 3.5.2 TS B3.5.2

Student References Provided
TS 3.5.2

SYS016 A2.02 - Non-Nuclear Instrumentation System (NNIS)
Ability to (a) predict the impacts of the following malfunctions or operations on the NNIS; and (b) based on those predictions, use or mitigate the consequences of those malfunctions or operations: (CFR: 41.5 / 43.5 / 45.3 / 45.5)
Loss of power supply .....

401-9 Comments:

Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 92 92 **D**

SYS034 2.1.35 - Fuel Handling Equipment System (FHES)
SYS034 GENERIC
Knowledge of the fuel-handling responsibilities of SROs.

Given the following Unit 1 conditions:

- Reactor in MODE 6
- Refueling in progress
- TS-3 (Bridge Bypass – bridge left) requires bypassing

In accordance with OP/0/A/1506/001 (Fuel and Component Handling), which ONE of the following list contains the MINIMUM individual(s) who are required to authorize bypassing the above interlock?

A. Reactor Engineer ONLY

B. Fuel Handling Supervisor ONLY

C. Licensed Senior Reactor Operator AND Reactor Engineer

D. Licensed Senior Reactor Operator AND Fuel Handling Supervisor

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ILT41 ONS SRO NRC Examination QUESTION 92

92

D

General Discussion

Answer A Discussion

Incorrect. Plausible because a Reactor Engineer is required to authorize bypassing some interlocks. However not this one.

Answer B Discussion

Incorrect. Plausible because a Fuel Handling Supervisor is required to authorize bypassing this interlock but not the only one.

Answer C Discussion

Incorrect. Plausible because a Reactor Engineer is required to authorize bypassing some interlocks. However not this one. The SRO approval is also required for bypassing this interlock.

Answer D Discussion

Correct. Per OP/1506/001 (Encl. 3.14) a Licensed SRO and the Fuel handling Supervisor are required to approve bypassing this interlock.

Basis for meeting the KA

Question requires knowledge of a SRO fuel handling responsibility.

Basis for Hi Cog

Basis for SRO only

In accordance with Clarification Guidance for SRO-only Questions:

Requires knowledge of SRO responsibilities during fuel handling operations.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Memory	NEW	

Development References	Student References Provided
SF-FHS R36 OP/1506/001	

SYS034 2.1.35 - Fuel Handling Equipment System (FHES)
SYS034 GENERIC
Knowledge of the fuel-handling responsibilities of SROs.

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 93

93

B

SYS068 2.2.40 - Liquid Radwaste System (LRS)
SYS068 GENERIC
Ability to apply Technical Specifications for a system. (CFR: 41.10 / 43.2 / 43.5 / 45.3)

Given the following Unit 1 conditions:

Initial conditions:
- Time = 1200
- 1RIA-54 removed from service for planned maintenance

Current conditions:
- Time = 1235
- 1RIA-54 returned to service

Which ONE of the following states ALL SLC 16.11.3 (Radioactive Effluent Monitoring Instrumentation) conditions that apply (if any) at 1200?

REFERENCE PROVIDED

A. None

B. B and F ONLY

C. B and H ONLY

D. B, F, and H

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ILT41 ONS SRO NRC Examination QUESTION 93

93

B

General Discussion

Answer A Discussion

Incorrect. Plausible since there are several conditions in SLC 16.11.3 that provide for allowing a short < 1hr planned outage of required RIA's or RIA components without having to enter the Condition for that RIA or component being inoperable. Therefore referring to the wrong condition or based on "sight recognition" of the 1 hour controlled outage, attempting to answer without looking up the correct condtions could result in making this choice.

Answer B Discussion

Correct. RIA-54 being inoperable results in entry into Condition B. Required Action B.1 requires using Table 16.11.3-1 to determine additional Conditions that apply. The table for RIA-54 refers to Condition F.

Answer C Discussion

Incorrect. Condition B is correct. Condition H is plausible since it would be correct for the Sample Flow Monitor associated with RIA-54 being inoperable (per Table 16.11.3-1).

Answer D Discussion

Incorrect. Conditions B and F are correct and Condition H is plausible since it would be correct for the Sample Flow Monitor associated with RIA-54 being inoperable (per Table 16.11.3-1).

Basis for meeting the KA

Requires applying SLC 16.11.3 to the LWR system.

Basis for Hi Cog

Requires application of a Tech Spec.

Basis for SRO only

In accordance with Rev 1 guidance of Clarification Guidance for SRO-only Questions, this question requires application of a SLC to determine which Required Actions would apply. The question cannot be answered based on knowing 1 hr or less TS, above the line information, or Tech Spec Safety Limit information.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	NEW	

Development References	Student References Provided
ADM-ITS Obj. R6 SLC 16.11.3	SLC 16.11.3

SYS068 2.2.40 - Liquid Radwaste System (LRS)
SYS068 GENERIC
Ability to apply Technical Specifications for a system. (CFR: 41.10 / 43.2 / 43.5 / 45.3)

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 94

94

B

GEN2.1 2.1.43 - GENERIC - Conduct of Operations

Conduct of Operations

Ability to use procedures to determine the effects on reactivity of plant changes, such as reactor coolant system temperature, secondary plant, fuel depletion, etc. (CFR: 41.10 / 43.6 / 45.6)

Given the following Unit 1 conditions:

An Estimated Critical Position (ECP) of Group 7 @ 30% withdrawn is calculated as follows:

- 400 EFPD
- 535 °F RCS Temperature
- 200 ppmB RCS boron concentration
- (-1.47%) Δk/k Xenon/Samarium Concentration

1) ___(1)___ will result in an ECP of CRD Group 7 greater than 30% withdrawn.

2) In accordance with the OP/1/A/1102/001 (Controlling Procedure for Unit Startup), if criticality is NOT achieved within ± 0.75% Δk/k of the ECP then ___(2)___.

Which ONE of the following completes the statements above?

A. 1. 537°F RCS temperature
   2. fully insert ALL safety and regulating rod groups

B. 1. 537°F RCS temperature
   2. insert ALL control rod groups to group 1 at 50% ONLY

C. 1. 190 ppmB RCS boron concentration
   2. fully insert ALL safety and regulating rod groups

D. 1. 190 ppmB RCS boron concentration
   2. insert ALL control rod groups to group 1 at 50% ONLY

ILT41 ONS SRO NRC Examination QUESTION 94

94

B

General Discussion

Answer A Discussion

incorrect. First part is correct. Second part it is plausible to believe that a shutdown must be performed and inserting all control rods is required.

Answer B Discussion

Correct. An increase in RCS temperature would add negative reactivity which would require Group 7 rods to be further withdrawn. Enclosure 4.7 of Op/1/A/1102/001 step 3.21 requires that rods be inserted to Group 1 at 50% if criticality not achieved within .75%.

Answer C Discussion

Incorrect. First part is plausible if Boron concentration increased it would be correct. Second part it is plausible to believe that a shutdown must be performed and inserting all control rods is required.

Answer D Discussion

Incorrect. First part is plausible if Boron concentration increased it would be correct. Second part is correct.

Basis for meeting the KA

Question requires knowledge of the affect of various plant parameters on reactivity and how this would affect the reactivity balance procedure..

Basis for Hi Cog

Basis for SRO only

This requires detailed knowledge of the Startup procdure and this procedure is always ran by the SRO.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	MODIFIED	2007 Retest Q#67

Development References	Student References Provided
OP/1/A/1102/001	

GEN2.1 2.1.43 - GENERIC - Conduct of Operations

Conduct of Operations

Ability to use procedures to determine the effects on reactivity of plant changes, such as reactor coolant system temperature, secondary plant, fuel depletion, etc. (CFR: 41.10 / 43.6 / 45.6)

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 95 95 **D**

GEN2.2 2.2.15 - GENERIC - Equipment Control
Equipment Control
Ability to determine the expected plant configuration using design and configuration control documentation, such as drawings, line-ups, tag-outs, etc. (CFR: 41.10 / 43.3 / 45.13)

Given the following Unit 1 conditions:

- Makeup to the 1&2 SFP from 2A BHUT is desired

Per OMP 1-02 (Rules Of Practice):

1) the __(1)__ is required to mark up the prints in the WCC and the Control Room.

2) this evolution __(2)__ allowed to be controlled from WCC.

Which ONE of the following completes the statements above?

A. 1. responsible WCC SRO
   2. is

B. 1. responsible WCC SRO
   2. is NOT

C. 1. Control Room SRO
   2. is

D. 1. Control Room SRO
   2. is NOT

ILT41 ONS SRO NRC Examination QUESTION 95

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D

General Discussion

Answer A Discussion

Incorrect. First part is plausible because the WCC SRO does mark up procedures and other documents that can affect the CR. Second part is plausible because WCC does control some evolutions that are approved by the CR. Such as tag outs.

Answer B Discussion

Incorrect. First part is plausible because the WCC SRO does mark up procedures antd other documents that can affect the CR. Second part is correct.

Answer C Discussion

Incorrect. First part is correct. Second part is plausible because other activities are approved by the CRSRO but controlled by the WCC. Tag outs would be an example.

Answer D Discussion

Correct, The CRSRO is required to markup the drawing in both locations if it will be controlled from the CR. All water movement shall be controlled from the CR.

Basis for meeting the KA

Requires knowledge of plant procedures for using drawings for configuration change evolutions.

Basis for Hi Cog

Basis for SRO only

From the Clarification Guidance for SRO-only Questions dacument:
This question meets the following:
Knowledge of administrative procedures that specify hierarchy, implementation, and/or coordination of plant normal, abnormal, and emergency procedures Requires familiarity with proper procedures for configuration change evolutions.

Only an SRO performs this task.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Memory	BANK	ONS NRC 2007 Q97

Development References	Student References Provided
OMP 1-2, Rules of Practice	

GEN2.2 2.2.15 - GENERIC - Equipment Control
Equipment Control
Ability to determine the expected plant configuration using design and configuration control documentation, such as drawings, line-ups, tag-outs, etc. (CFR: 41.10 / 43.3 / 45.13)

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 96

96

B

GEN2.2 2.2.40 - GENERIC - Equipment Control
Equipment Control
Ability to apply Technical Specifications for a system. (CFR: 41.10 / 43.2 / 43.5 / 45.3)

Given the following Unit 1 conditions:

- RCS Loops "dropped"
- 1A LPI pump operating
- SR 3.4.8.1 is performed at 2100 on 12-1

Which ONE of the following states the LATEST time that SR 3.4.8.1 can be performed and the specified Frequency of the surveillance still be met?

REFERENCE PROVIDED

A. 0900 on 12-2.

B. 1200 on 12-2.

C. 2100 on 12-2.

D. 0000 on 12-3.

ILT41 ONS SRO NRC Examination QUESTION 96

96

B

General Discussion

Answer A Discussion

Incorrect: SR 3.0.2 allows for 25% extension of the interval specified as the frequency. This answer would be correct without the 25% extension applied since SR 3.4.8.1 has a 12 hour frequency.

Answer B Discussion

Correct: SR 3.0.2 allows for 25% extension of the interval specified as the frequency. SR 3.4.8.1 has a 12 hour frequency therefore applying the 25% extension results in 15 hours which is 1200 on 12-2.

Answer C Discussion

Incorrect: This would be correct if the surveillance was a SLC requirement and not a TS requirement. SLC 16.2.7 says that SLC frequencies get a 50% extension which would be 18 hours which is 2100 on 12-2.

Answer D Discussion

Incorrect. This would be when to declare the LCO not met if the SR had been discovered not performed at 2100 on 12-1.

Basis for meeting the KA

K/A MATCH ANALYSIS
Requires knowledge of LPI Tech Specs as pertains to the DHR mode of operation

Basis for Hi Cog

Basis for SRO only

In accordance with Rev 1 guidance of Clarification Guidance for SRO-only Questions, this question requires application of generic LCO requirements (specifically SR 3.0.2). The question cannot be answered based on knowing 1 hr or less TS, above the line information, or Tech Spec Safety Limit information.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	MODIFIED	ONS 2009 SRO Q#87

Development References
TS 3.4.8, TS SR 3.0.3 ONS 2009 SRO Q#87

Student References Provided
TS 3.4.8

GEN2.2 2.2.40 - GENERIC - Equipment Control
Equipment Control
Ability to apply Technical Specifications for a system. (CFR: 41.10 / 43.2 / 43.5 / 45.3)

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 97

97

A

GEN2.3 2.3.14 - GENERIC - Radiation Control

Radiation Control

Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities. (CFR: 41.12 / 43.4 / 45.10)

Given the following Unit 1 conditions:

Initial conditions:

- EOP Enclosure 5.12 (ECCS Suction Swap to RBES) in progress

Current conditions:

- The step to open 1HP-939 and 1HP-940 has just been completed

1) These valves direct HPI flow to the ___(1)___.

2) In accordance with the bases of SLC 16.6.12 (Additional HPI Requirements) this flow path is established to prevent ___(2)___.

Which ONE of the following completes the statements above?

A. 1. RBES
   2. elevated dose rates in the Auxiliary Building

B. 1. RBES
   2. Boron precipitation in the core

C. 1. LDST
   2. elevated dose rates in the Auxiliary Building

D. 1. LDST
   2. over-pressurization of the letdown line

ILT41 ONS SRO NRC Examination QUESTION 97

97

A

General Discussion

Answer A Discussion

Correct. 1HP-939/940 provide a flow path from the LDST outlet to the RBES. These valves are opened to prevent the HPI pump recirc flow during piggyback from causing HPI relief valves from opening. If opened this would cause high dose rates in the AB.

Answer B Discussion

Incorrect. First part is correct. Second part is plausible a flow path to the RBES is aligned to provide for post LOCA Boron Dilution. However this is not the correct flow path.

Answer C Discussion

Incorrect. Plausible if the candidate has the misconception that the valves are used to ensure an HPI pump recirc flow path back to the LDST. Second part is correct.

Answer D Discussion

Incorrect. Plausible if the candidate has the misconception that the valves are used to ensure an HPI pump recir flow path back to the LDST. Second part is plausible because they do route letdown flow to the RBES which would relive letdown pressure however they are on the outlet of the LDST.

Basis for meeting the KA

Question requires knowledge of radation hazards that can occur during a SBLOCA and how it is prevented.

Basis for Hi Cog

Basis for SRO only

This question requires knowledge from the basis of SLC 16.6.12 that is not systems knowledge.
It cannot be answered by knowing 1 hr or less TS/TRM Action
It cannot be answered solely with "above the line" information.
It cannot be answered solely by knowing Safety Limits

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Memory	NEW	

Development References
PNS-HPI SLC 16.6.12 ADM-TSS EOP Encl. 5.12

Student References Provided

GEN2.3 2.3.14 - GENERIC - Radiation Control

Radiation Control

Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities. (CFR: 41.12 / 43.4 / 45.10)

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 98 98 **A**

GEN2.3 2.3.4 - GENERIC - Radiation Control
Radiation Control
Knowledge of radiation exposure limits under normal or emergency conditions. (CFR: 41.12 / 43.4 / 45.10)

Given the following Unit 1 conditions:

Initial conditions:
- Reactor power = 100%

Current conditions:
- RCS pressure = 1136 psig slowly decreasing
- Core SCM = 0°F
- RB pressure = 11.6 psig slowly decreasing
- 1A SG pressure = 1010 psig slowly decreasing
- 1B SG pressure = 1008 psig slowly decreasing

1) Emergency Dose Limits ___(1)___ in affect.

2) The maximum (TEDE) dose that an NEO can receive while performing a task outside of the control room without exceeding any applicable limits is ___(2)___.

Which ONE of the following completes the statements above?

A. 1. are
   2. 5 rem for performing Time Critical Tasks

B. 1. are
   2. 25 rem for protecting property

C. 1. are NOT
   2. 2 rem for performing Time Critical Tasks

D. 1. are NOT
   2. 25 rem for lifesaving activities

ILT41 ONS SRO NRC Examination QUESTION 98

98

A

General Discussion

Answer A Discussion

CORRECT: Plant conditions indicate a LOCA is occurring. This requires EDLs to be in effect. 5 rem is the maximum dose that could be received under EDLs for performing Time Critical Tasks.

Answer B Discussion

Incorrect: First part is correct. Second part is incorrect. Plausible because 25 rem is the limit for lifesaving activities.

Answer C Discussion

Incorrect: First part is incorrect. Plausible if they miss diagnose a MSLB. Second part is incorrect. Plausible in that 2 rem is the normal administrative limit.

Answer D Discussion

Incorrect: First part is incorrect. Plausible if they miss diagnose a MSLB. Second part is incorrect. Plausible because 10 rem is the maximum allowed dose for protecting property. 25 rem is the limit for lifesaving activities.

Basis for meeting the KA

Requires knowledge of whether emergency dose limits are in effect and for what task they apply

Basis for Hi Cog

Basis for SRO only

The SRO as the procedure director evaluates facility conditions and determines if EDLs are in affect.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	BANK	ONS 2009 Q#99

Development References	Student References Provided
EOP LOSCM tab ONS 2009 Q#99	

GEN2.3 2.3.4 - GENERIC - Radiation Control

Radiation Control

Knowledge of radiation exposure limits under normal or emergency conditions. (CFR: 41.12 / 43.4 / 45.10)

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 99 99

B

GEN2.4 2.4.18 - GENERIC - Emergency Procedures / Plan
Emergency Procedures / Plan
Knowledge of the specific bases for EOPs. (CFR: 41.10 / 43.1 / 45.13)

Given the following Unit 1 conditions:

Initial conditions:
- Reactor power = 100%

Current conditions:
- Turbine Building Flood (TBF) tab in progress

1) In accordance with the TBF tab, __(1)__ is the preferred method to maintain stable shutdown conditions.

2) The above method is chosen because __(2)__.

Which ONE of the following completes the statements above?

A. 1. feeding the SGs with SSF ASW
   2. BWST inventory is NOT adequate to cool down to LPI

B. 1. feeding the SGs with SSF ASW
   2. of the expected unavailability of LPSW to cool the RBES

C. 1. initiation of HPI forced cooling
   2. BWST inventory is adequate to cool down to LPI

D. 1. initiation of HPI forced cooling
   2. of the negative consequences of putting lake water in the SGs

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ILT41 ONS SRO NRC Examination QUESTION 99

99

B

General Discussion

Answer A Discussion

Incorrect. First part is correct. Second part is plausible because the candidate may have the misconception that BWST does not have adequate inventory to cooldown to LPI.

Answer B Discussion

Correct. For a TBF, feeding SGs with raw water from SSF ASW or Station ASW is preferred over HPI forced cooling. HPI F/C is not preferred since once the BWST is depleted, water in the RBES is not expected to be available due to unavailability of LPSW for cooling. .

Answer C Discussion

Incorrect. First part is plausible because HPI F/C is normally preferred over using SSF ASW. Second part is plausible because the candidate may have the misconception that the BWST does not have adequate inventory to cooldown to LPI.

Answer D Discussion

Incorrect. First part is plausible because HPI F/C is normally preferred over using SSF ASW. Second part is plausible because feeding raw lake water into the SGs is bad but is not the reason in this case.

Basis for meeting the KA

Question requires knowledge of the bases for actions taken in the EOP.

Basis for Hi Cog

Basis for SRO only

In accordance with Clarification Guidance for SRO-only Questions:

Requires assessing plant conditions and determining a section of the procedure with which to proceed. It cannot be answered based solely on systems knowledge or entry conditions. Plant data must be assessed and then the correct section of the procedure applied (feeding SGs with SSF ASW).

Also requires knowledge of the bases for this action.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Comprehension	NEW	

Development References	Student References Provided
EAP-TBF R5 TBF tab	

GEN2.4 2.4.18 - GENERIC - Emergency Procedures / Plan

Emergency Procedures / Plan

Knowledge of the specific bases for EOPs. (CFR: 41.10 / 43.1 / 45.13)

401-9 Comments:	Remarks/Status

ILT41 ONS SRO NRC Examination QUESTION 100 100

C

GEN2.4 2.4.44 - GENERIC - Emergency Procedures / Plan
Emergency Procedures / Plan
Knowledge of emergency plan protective action recommendations. (CFR: 41.10 / 41.12 / 43.5 / 45.11)

Given the following Unit 1 conditions:

Initial conditions:
- Time = 0400
- The Emergency Plan has been entered due to LBLOCA

Current conditions:
- Time = 0455
- The TSC is activated and turnover is complete

1) The LOWEST classification which always requires a protective action recommendation on the initial notification is a ___(1)___.

2) After 0455, the ___(2)___ will notify the State and Counties of additional protective action recommendations.

Which ONE of the following completes the statements above?

A. 1. Site Area Emergency
   2. TSC

B. 1. Site Area Emergency
   2. Control Room

C. 1. General Emergency
   2. TSC

D. 1. General Emergency
   2. Control Room

ILT41 ONS SRO NRC Examination QUESTION 100

100

C

General Discussion

Answer A Discussion

Incorrect. First part is plausible because PARs are for the initial notification with a Conditons "A" or "B" for one of the dams or dikes. Second part is correct.

Answer B Discussion

Incorrect. First part is plausible because PARs are for the initial notification with a Conditions "A" or "B" for one of the dams or dikes. Second part is plausible because the Control Room handles off-site communications until the TSC is activated..

Answer C Discussion

Correct. The General Emergency is the only classification that requires PARs any time it is used. The TSC handles off-site communications after it is activated.

Answer D Discussion

Incorrect. First part is correct. Second part is plausible because the Control Room handles off-site communications until the TSC is activated…

Basis for meeting the KA

The question requires knowledge of PARs, which is a function of the emergency coordinator.

Basis for Hi Cog

Basis for SRO only

OSM will be the initial emergency coordinator during the event. It could be his responsibility to make the initial PAR. An RO would not be required to know this.

Job Level	Cognitive Level	QuestionType	Question Source
SRO	Memory	NEW	

Development References	Student References Provided
EAP-SEP R01 Per RP/0/B/1000/002,	

GEN2.4 2.4.44 - GENERIC - Emergency Procedures / Plan

Emergency Procedures / Plan

Knowledge of emergency plan protective action recommendations. (CFR: 41.10 / 41.12 / 43.5 / 45.11)

401-9 Comments:	Remarks/Status

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Reference List for: ILT41 ONS SRO NRC Examinati

Question Number	*Reference List*
16	AP/34 Capability curve
61	AP/35 Encl. 5.4
73	Plan View RWP 23
80	TS 3.8.8
86	RP/0/B/1000/001 Encl. 4.1 - 4.9
89	RP/0/B/1000/001 Encl. 4.1 - 4.9
91	TS 3.5.2
93	SLC 16.11.3
96	TS 3.4.8