

Examination Outline Cross-reference:

| | | |
|-------------------|-----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.1.074.EA1.24</u> | |
| Importance Rating | <u>3.6</u> | <u>3.8</u> |

Proposed Question:

The plant is responding to an inadequate core cooling condition with core exit thermocouples greater than 1200°F. From the choices below, select the choice that lists the best recovery technique in the correct priority for this condition.

- A. Start ECCS, depressurize secondary, start RCP, depressurize RCS.
- B. Start RCP, depressurize RCS, depressurize secondary, start ECCS.
- C. Trip RCPs, trip turbine, depressurize secondary, isolate accumulators.
- D. Start ECCS, depressurize RCS, trip RCPs, depressurize secondary.

Proposed Answer: A

Explanation:

Technical Reference: FRC-0.1A

Proposed references to be provided to applicants during examination:

Learning Objective: _____**Question Source:**

Bank #

CPSES
MCO.MI3.OB105-
005

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content:55.41 1055.43 5**Comments:**

RO/SRO TEST QUESTION #: 1

Examination Outline Cross-reference:

| | | |
|-------------------|-----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.1.074.EA1.26</u> | |
| Importance Rating | <u>3.8</u> | <u>3.8</u> |

Proposed Question:

The flowpath of the "Cold Leg Recirculation Phase" of the ECCS is that water is delivered from the:

- A. RWST to the RCS cold legs.
- B. Containment sumps to the RCS cold legs.
- C. Containment sumps to the RCS hot legs.
- D. RWST to the RCS hot legs.

Proposed Answer: B

Explanation:

Technical Reference: EOS-1.3A

Proposed references to be provided to applicants during examination:

Learning Objective:**Question Source:**

Bank #

CPSES
SYS.SI1.OB900 -
061

Modified

New **Question History:**Last NRC Exam **Cognitive Level:**X

Memory or Fundamental Knowledge

Comprehension or Analysis**10 CFR Part 55 Content:****55.41**7**55.43****Comments:**

RO (ONLY) TEST QUESTION #: 2

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.005.AA1.05</u> | |
| Importance Rating | <u>3.4</u> | <u>3.4</u> |

Proposed Question:

During a Reactor startup with Control Bank D at 20 steps and the Reactor subcritical, the DRPI ROD DEV annunciator is received. The Reactor Operator observes that Control Bank B rod F2 indicates 210 steps while Control Bank B Group 1 step counter indicates 228 steps. No other alarms are received and all other parameters indicate normal. This event would require the crew to:

- A. Consider the rod misaligned and within one hour insert all Control Banks to Control Bank Offset (CBO).
- B. Consider the rod misaligned and continue rod withdrawal to reach Critical conditions then realign the rod.
- C. Consider the rod misaligned and compare DRPI and Step Counter positions at least once per 12 hours.
- D. Consider the rod misaligned and implement the requirements of Technical Specifications 3.0.3.

Proposed Answer: A

Explanation:

Technical Reference: ABN-712

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.CR1.OB15- 4

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content:

55.41 10
55.43 5

Comments:

RO/SRO TEST QUESTION #: 3

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.067.AA1.05</u> | |
| Importance Rating | <u>3.0</u> | <u>3.1</u> |

Proposed Question:

The Control Room Ventilation System has been aligned for Control Room Isolation Mode due to a large fire in a field adjacent the plant. The Unit Supervisor checks the logs and realizes that the ventilation system has been in Isolation Mode for approximately 24 hours. Which of the following statements describes the situation in the Control Room?

- A. The humidity in the Control Room has dropped dangerously low.
- B. The carbon monoxide level in the Control Room is increasing.
- C. The air quality in the Control Room has been polluted by contaminants from the fire.
- D. The carbon dioxide level in the Control room is increasing.

Proposed Answer: D

Explanation:

Technical Reference: SOP-802 "Control Room Ventilation System"

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified X
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 4

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.068.AA1.14</u> | |
| Importance Rating | <u>4.2</u> | <u>4.4</u> |

Proposed Question:

A fire in the control room with heavy smoke requires immediate evacuation of the control room. Unit 1 was at 95% power at the time the evacuation procedure was initiated. The Unit 1 Reactor Operator was only able to trip the turbine prior to exiting the control room. Assuming that the plant responds as expected, which ONE of the following local actions needs to be taken to complete the RO's initial evacuation assignments?

- A. Open the Reactor Trip Breakers.
- B. Isolate the Main Steam lines.
- C. Remove pressurizer PORV fuses.
- D. Isolate dilution paths and S/G Process Sampling.

Proposed Answer: B

Explanation:

Technical Reference: ABN-803A

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source: Bank # INPO 2703 Modified X
New

Question History: Last NRC Exam Prairie Island 1(WEC), 6/16/1997

Cognitive Level: Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 7, 8, 10
55.43 5

Comments:

Modifications: clarified stem, and adapted distracters to CPSES, and replaced one distracter.

RO/SRO TEST QUESTION #: 5

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.068.AA2.10</u> | |
| Importance Rating | <u>4.2</u> | <u>4.4</u> |

Proposed Question:

A bomb threat has forced a control room evacuation. Prior to the bomb threat, the plant was operating steady at 100%. The relevant control room actions directed by ABN-905A "Loss of Control Room Habitability" were completed and plant operations have been transferred to the Remote Shutdown Panel (RSP). When the Reactor Operator arrives at the RSP, he should expect to see the following indications:

- A. Neutron flux decreasing steadily and rod bottom lights on.
- B. Neutron flux and rods at approximately the level they were when he left the control room.
- C. Neutron flux decreasing steadily and the reactor trip breakers are open.
- D. Neutron flux at approximately the level it was before he left the control room and reactor trip breakers closed.

Proposed Answer: C

Explanation:

ABN-905A directs a reactor trip prior to leaving the control room, and rod bottom lights are not indicated at the RSP. The RO can observe both neutron flux decreasing, and reactor trip breakers open from the RSP.

Technical Reference: ABN-905A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: _____ **Bank #** _____ **Modified** _____
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 1, 6, 10
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 6

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

1

1

Group #

1

1

K/A #

4.2.076.AA2.03

Importance Rating

2.5

3.0

Proposed Question:

On Monday, the daily RCS chemistry sample on Unit 2 determined the RCS specific activity to be 0.02 uc/mg Dose Equivalent I-131. On Tuesday, During a planned shutdown, Unit 2 experienced a 35% load rejection from 50% power. Tuesday's daily RCS chemistry sample determined the RCS specific activity to be 0.13 uc/mg Dose Equivalent I-131. Which one of the below statements identifies the required response?

- A. Be in mode 3 condition with Tave less than 500 degrees F within 6 hours.
- B. Initiate a Safety Injection and enter EOP-0.0A.
- C. Obtain and analyze a plant vent grab sample.
- D. Continue with plant operations as planned, there is no required response to the stated conditions.

Proposed Answer: C

Explanation:

Technical Reference: IPO-003A

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

IPO.XO4.OB900

- 002

X

New

Question History: Last NRC Exam

Cognitive Level:

Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content:

55.41 10

55.43 5

Comments:

Modifications: altered stem IC's and two distractors.

RO/SRO TEST QUESTION #: 7

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.076.AA2.04</u> | |
| Importance Rating | <u>2.6</u> | <u>3.0</u> |

Proposed Question:

The Liquid Waste Processing Effluent Radiation Monitor High Radiation alarm has been received. Which of the following is the correct action for the operator to take initially?

- A. Ensure X-RV-5251 (ABP-074) is closed or close its upstream isolation valve.
- B. Reopen X-RV-5251 (ABP-074) and ensure correct pump is running.
- C. Reopen X-RV-5253 (LWE-076) and ensure correct pump is running.
- D. Ensure X-RV-5253 (LWE-076) is closed or close its upstream isolation valve.

Proposed Answer: D

Explanation:

Technical Reference: ALM-3200, ABN-903

Proposed references to be provided to applicants during examination:

Learning Objective: _____**Question Source:**

Bank #

CPSES
SYS.WP1.OB12 -
003

Modified

New **Question History:**

Last NRC Exam _____

Cognitive Level:

 Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:**55.41** 10**55.43** 5**Comments:**

RO/SRO TEST QUESTION #: 8

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|------------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.027.G.2.4.2</u> | |
| Importance Rating | <u>3.9</u> | <u>4.1</u> |

Proposed Question:

Which group of plant symptoms represents a likely plant response to Pressurizer Level Channel 459 failing high (Ch-459 is the controlling channel) - assuming no operator action (the plant is at 100% power and all systems are in automatic):

- A. Charging flow decreases, PZR Level decreases, and RX Trips on low pressure
- B. Charging flow increases, PZR Level increases, and RX Trips on high PZR Level
- C. Charging flow decreases, letdown isolates, and RX trips on high PZR Level
- D. Charging flow increases, letdown isolates, and RX trips on low pressure

Proposed Answer: C

Explanation:

Technical Reference: LO21.RLS.IC3.LN

Proposed references to be provided to applicants during examination:

Learning Objective:**Question Source:**

Bank #

CPSES
MCO.TA3.OB103
- 002

Modified

X
New

Question History:

Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:55.41 755.43 **Comments:**

Modifications: Reversed question and changed all distracters.

RO/SRO TEST QUESTION #: 9

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.1.055.EK1.02</u> | |
| Importance Rating | <u>4.1</u> | <u>4.4</u> |

Proposed Question:

According to EOS-0.1A "Reactor Trip Response," which of the following is an indication of natural circulation:

- A. Steam generator pressures increasing
- B. Pressurizer pressure is stable or decreasing
- C. Core exit thermocouple temperatures increasing
- D. RCS cold leg temperatures at saturation temperature for S/G pressure

Proposed Answer: D

Explanation:

Technical Reference: EOS-0.1A Attachment 3

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 10526 Modified X
New

Question History: Last NRC Exam Indian Point 3 (WEC), 4/15/1996

Cognitive Level: Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 8, 10
55.43

Comments:

Modifications: adapted to CPSES terminology, reversed question, and replaced one distracter.

RO/SRO TEST QUESTION #: 10

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.067.AK1.01</u> | |
| Importance Rating | <u>2.9</u> | <u>3.9</u> |

Proposed Question:

While you are on shift on Saturday night, an equipment operator calls the control room and informs you that he has found a fire smoldering in an electrical panel. If available, the preferred method for fighting this type of fire is:

- A. halon.
- B. foam.
- C. water fog/spray.
- D. dry powder extinguisher.

Proposed Answer: A

Explanation:

Technical Reference: STA-724 "Fire Reporting and Response"

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 5378 Modified
New

Question History: Last NRC Exam Salem 1(WEC), 1/22/1996

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 8, 10
55.43

Comments:

RO/SRO TEST QUESTION #: 11

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>4.2.028.AA2.01</u> | |
| Importance Rating | <u>3.4</u> | <u>3.6</u> |

Proposed Question:

WHICH ONE (1) of the following conditions would result in a decrease in actual pressurizer level?

- A. The reference leg cools down due to a decrease in containment temperature.
- B. Pressurizer liquid temperature increases.
- C. A leak in the reference leg of the controlling pressurizer level transmitter.
- D. Containment pressure increases to 0.3 psig; containment temperature remains constant.

Proposed Answer: C

Explanation:

Technical Reference: LO21.GFE.FF1.LN

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

 SYS.PP1.OB08-28 New

Question History:

Last NRC Exam

Cognitive Level:

 X

Memory or Fundamental Knowledge

 Comprehension or Analysis

10 CFR Part 55 Content:

 55.41 55.43 5

Comments:

RO/SRO TEST QUESTION #: 12

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

1

1

Group #

1

1

K/A #

4.5.E09.EK1.02

Importance Rating

3.3

3.7

Proposed Question:

Which of the following combinations of circumstances would generate the highest Natural Circulation flowrate?

- A. Following a RX trip from 100% power, all RCPs run until the plant is in mode 4, then stop.
- B. Following a RX trip from 50% power, all RCPs run until the plant is in mode 4, then stop.
- C. Following a RX trip from 100% power, all RCPs stop at the same time the reactor trips.
- D. Following a RX trip from 50% power, all RCPs stop at the same time the reactor trips.

Proposed Answer: C

Explanation:

Technical Reference:

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

SJ2.XG7.OB104 -

002

X

New

Question History: Last NRC Exam

Cognitive Level:

Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content:

55.41

8, 10

55.43

Comments:

Modifications: stem and all distracters altered.

RO/SRO TEST QUESTION #: 13

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.068.AK2.03</u> | |
| Importance Rating | <u>2.9</u> | <u>3.1</u> |

Proposed Question:

Choose the statement which correctly describes the operational characteristics of "CR/HSP" switches positioned to "HSP."

- A. Deenergizes the associated component to its "fail-safe" position.
- B. Aligns alternate safe-shutdown control power to ensure automatic operation during a fire.
- C. Isolates the component from the Control Room and removes automatic control function.
- D. Isolates the component from the Control Room but maintains automatic control functions.

Proposed Answer: C

Explanation:

Technical Reference: OPT-216A "Remote Shutdown Operability Test"

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 7
55.43 _____

Comments:

RO (ONLY) TEST QUESTION #: 14

Examination Outline Cross-reference:

| | | |
|-------------------|-----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.051.AK3.01</u> | |
| Importance Rating | <u>2.8</u> | <u>3.1</u> |

Proposed Question:

Given the following Unit 1 plant conditions:

- o Unit was initially at 100% power and has been manually tripped.
- o Tave is 554°F on all channels.
- o "A" Condenser vacuum is 14" vacuum
- o "B" Condenser vacuum is 18" vacuum
- o two Circ water pumps are running

Which ONE of the following describes the capability to dump steam?

- A. Only the ARV's are available.
- B. Steam dump capability is NOT available.
- C. Only the condenser Steam Dumps are available.
- D. Both ARV's and condenser Steam Dumps are available.

Proposed Answer: D

Explanation:

With 12.3 inches Hg (12.0 inches Hg on Unit 2) OR \leq 2 CW Pump breakers racked in, C-9 signal is removed and the arming solenoid valve is prevented from energizing; operator is left with the SG Atmospheric Relief Valves to control RCS temperature or SG pressure

Technical Reference: LO21.SYS.SD1 Lesson Plan; DBD-ME-202, "Main Steam System"

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 2694 Modified
New

Question History: Last NRC Exam Prairie Island 1 (WEC) 6/16/1997

Cognitive Level: Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 5, 10
55.43

Comments:

RO/SRO TEST QUESTION #: 15

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.5.E07.EK3.01</u> | |
| Importance Rating | <u>3.1</u> | <u>3.7</u> |

Proposed Question:

Given the following:

- The RCS has had a stuck open Pressurizer safety valve.
- The reactor tripped and safety injection initiated.
- The RCS rapidly depressurized to saturation conditions.
- Pressurizer level initially dropped and then began to rise rapidly.

Which one of the following characterizes the relationship between pressurizer level and RCS inventory under these conditions?

- A. Level is an accurate indication of inventory, because voiding would occur first in the pressurizer due to the high temperature of the pressurizer walls.
- B. Level is an accurate indication of inventory, because hydraulic pressure would force any voids to the pressurizer steam space and out the safety valve.
- C. Level is NOT an accurate indication of inventory, because RCS voiding may result in a rapidly increasing pressurizer level.
- D. Level is NOT an accurate indication of inventory, because at higher temperatures the cold calibrated pressurizer level channels falsely indicate high.

Proposed Answer: C**Explanation:****Technical Reference:** EOS-1.2A, step 14 caution**Proposed references to be provided to applicants during examination:****Learning Objective:** _____**Question Source:**

Bank #

CPSES

Modified

EO1.XG3.OB900 -4

New

Question History:

Last NRC Exam

Cognitive Level: Memory or Fundamental KnowledgeX

Comprehension or Analysis

10 CFR Part 55 Content:**55.41** 5, 10**55.43** **Comments:****RO/SRO TEST QUESTION #: 16**

Examination Outline Cross-reference:

| | | |
|-------------------|-----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>1</u> |
| K/A # | <u>4.1.029.EA1.03</u> | |
| Importance Rating | <u>3.5</u> | <u>3.2</u> |

Proposed Question:

Given the following plant conditions:

- The unit was at 100% power
- A condition requiring a trip was diagnosed
- The operators are using FRS-0.1A, "Response to Nuclear Power Generation/ATWT", to respond to an ATWT
- The Turbine is tripped
- Emergency Boration valve 1/1-8104 has failed to open

Which ONE of the following describes the actions that the operator is required to perform?

- A. Open RWST supply to CCP's 1/1 LCV-112D and 1/1 LCV-112E, and shut VCT supply to CCP's 1/1 LCV-112B and 1/1 LCV-112C.
- B. Open VCT supply to CCP's 1/1 LCV-112B and 1/1 LCV-112C, and shut RWST supply to CCP's 1/1 LCV-112D and 1/1 LCV-112E.
- C. Open RWST supply to CCP's 1/1 LCV-112D, and shut VCT supply to CCP's 1/1 LCV-112B.
- D. Open VCT supply to CCP's 1/1 LCV-112B, and shut RWST supply to CCP's 1/1 LCV-112D.

Proposed Answer: A

Explanation:

Technical Reference: FRS-0.1A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: _____ **Bank #** _____ **Modified** _____
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ **Memory or Fundamental Knowledge**
X **Comprehension or Analysis**

10 CFR Part 55 Content: **55.41** 7
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 17

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

1

1

Group #

2

1

K/A #

4.5.E02.EA1.01

Importance Rating

4.0

3.9

Proposed Question:

Unit 1 and Unit 2 have experienced a Reactor trip and a loss of offsite power. Unit 2 systems and equipment functioned as required. The following complications were experienced on Unit 1:

-The Train B Diesel Generator was tagged out for maintenance and Train A Diesel Generator started and supplied the 6.9 safeguards bus as required. An inadvertent Safety Injection has occurred. Train A CCP tripped on restart.

-During the response actions of EOS-1.1A, "Safety Injection Termination", the Unit Supervisor identifies a caution that states "If RCP seal cooling had previously been lost, the affected RCP(s) should not be started prior to a status evaluation".

Which of the following is the appropriate recovery actions of EOS-1.1A for the conditions as described in this event?

- A. RCP seal injection valves are isolated. The PD pump is loaded on the Train A electrical bus to provide normal charging. Following restoration of non-safeguards power, RCPs are not started prior to an engineering evaluation.
- B. RCP seal injection valves are isolated. The PD pump is loaded on the Train A electrical bus to provide normal charging. Following restoration of non-safeguards power, RCP can be started in accordance with RCP operating instructions without an engineering evaluation.
- C. The PD pump is manually loaded on the Train A electrical bus to provide normal charging and seal injection. Following restoration of non-safeguards power, RCP can be started in accordance with RCP operating instructions without an engineering evaluation.
- D. The PD pump is manually loaded on the Train A electrical bus to provide normal charging and seal injection. Following restoration of non-safeguards power, RCPs are not started prior to an engineering evaluation.

Proposed Answer: C

Technical Reference: EOS-1.1A, STEP 26 CAUTION, EOP-0.0A, ATT. 9

Question Source:

Bank #

CPSES

Modified

SJ1.XG9.OB107-

1

New

Question History:

Last NRC Exam

Cognitive Level:

Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content:

55.41

7, 10

55.43

5

Comments:

RO/SRO TEST QUESTION #: 18

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>1</u> |
| K/A # | <u>4.5.E02.EA2.01</u> | |
| Importance Rating | <u>3.3</u> | <u>4.2</u> |

Proposed Question:

Given the following:

- o A Turbine/Generator trip has caused a Reactor trip.
- o The operators are in EOP-0.0A, "Reactor Trip or Safety Injection," at step 4, "Check SI Status."
- o RCS pressure is 1980 psig and slowly dropping.
- o Pressurizer level is 22% and stable.
- o Core exit T/Cs are 575 F and slowly rising.
- o Containment pressure is 15 psig.
- o All S/G NR levels are 20% and slowly rising.

Which of the following actions should be taken?

- A. Transition to FRZ-0.1A, "Response to High Containment Pressure."
- B. Proceed to EOS-0.1A, "Reactor Trip Response."
- C. Transition to FRH-0.1A, "Response to Loss of Secondary Heat Sink."
- D. Initiate SI and continue in EOP-0.0A.

Proposed Answer: D

Explanation:

SI is required based on Containment Pressure

Technical Reference: EOP-0.0A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: _____ **Bank #** _____ **Modified** _____
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 10
55.43 5

Comments:

RO (ONLY) TEST QUESTION #: 19

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.1.009.EA2.01</u> | |
| Importance Rating | <u>4.2</u> | <u>4.8</u> |

Proposed Question:

The plant is recovering from a loss of coolant accident in accordance with EOP-1.0A "Loss of Reactor or Secondary Coolant" with current conditions as follows:

- SI Pump Status: Both On
- RCP Status: All On
- RCS Pressure: 1249 psig and Stable
- Highest T-hot: 552 degrees F and Stable
- Highest CET: 560 degrees F and Stable
- Pressurizer Level: 34% and Increasing
- S/G Narrow Range Level: All at ~12% and Stable
- Total AFW Flow: 100 gpm
- Containment Pressure: 5 psig

Which ONE of the following actions should be taken?

- A. Stop all running RCPs
- B. Transition to FRZ-0.1A "Response to High Containment Pressure"
- C. Increase Total AFW flow to > 200 gpm
- D. Transition to EOS-1.1A "SI Termination"

Proposed Answer: A

Explanation:

Technical Reference: EOP-1.0A "Loss of Reactor or Secondary Coolant"

Proposed references to be provided to applicants during examination:

Steam Tables

Learning Objective: _____

Question Source: Bank # INPO 10764 Modified X
New _____

Question History: Last NRC Exam Kewaunee 1 (WEC), 12/18/1997

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 10
55.43 5

Comments:

Modifications: Modified Stem to change correct answer, and replaced one distracter.

RO/SRO TEST QUESTION #: 20

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.2.061.AA2.03</u> | |
| Importance Rating | <u>3.0</u> | <u>3.3</u> |

Proposed Question:

If Containment Air PIG is alarming at the gaseous activity ALERT setpoint, the operators in the Control Room would expect to have the following indication:

- A. Yellow LED on the corresponding PC-11
- B. Yellow LED on the corresponding RM-23
- C. Red LED on the corresponding PC-11
- D. Red LED on the corresponding RM-23

Proposed Answer: B

Explanation:

Yellow LED on RM-23 is indication of ALERT ALARM level; 5.95E-5 is below HIGH ALARM (Red) level, and there are no LED's on the PC-11

Technical Reference: OP51.SYS.RM1 Table 1, and OP51.SYS.RM1

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
_____ Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 11
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 21

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|------------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.1.038.3EA2.11</u> | |
| Importance Rating | <u>3.7</u> | <u>3.9</u> |

Proposed Question:

During the diagnostic steps of EOP-0.0 following a manual Reactor trip and SI due to a slowly decreasing Pressurizer level, the BOP notices that the Main Steam Line Radiation Monitor for one of the Steam Generators had been in alarm, but is now reading only slightly above normal on the PC-11 trends. Which statement below is correct?

- A. The trend is correct because when the Reactor and Turbine were tripped, the steam flow through the detector decreased resulting in the lower reading.
- B. The trend is correct because while the Reactor was critical, N-16 was being produced and entering the SG through a leak. The N-16 has now decayed away resulting in a lower reading.
- C. The trend is correct because the Main Steam Line Radiation Monitors are isolated on the SI signal resulting in the decreased reading.
- D. The trend is incorrect because if the radiation monitor was in alarm, the trend should continue to increase as the Krypton and Xenon reach a new higher equilibrium value until the leak is stopped.

Proposed Answer: B

Explanation:

Technical Reference: SOER 93-1, PALO VERDE SGTR

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # CPSES Modified
SYS.RM1.OB13-6
 New _____

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: 55.41 11
 55.43 5

Comments:

RO/SRO TEST QUESTION #: 22

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-------------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.1.011.G.2.4.18</u> | |
| Importance Rating | <u>2.7</u> | <u>3.6</u> |

Proposed Question:

A Large Break Loss of Coolant Accident (LBLOCA) has occurred and all RCS hot leg temperatures indicate 385°F. Why should the SI Accumulators Injection Valves be closed at this time?

- A. Ensures that the RCS saturation pressure for 385°F does NOT exceed the SI Accumulator pressure after the accumulator water has been discharged.
- B. Prevents overpressurization of Containment, which could occur if the nitrogen in the Accumulators was allowed to enter the RCS and exit via the break.
- C. Ensures adequate volume of borated water and nitrogen have been injected to recover the Core with liquid and inert the hydrogen gas contained within the RCS and Containment.
- D. Prevents further nitrogen injection into the RCS which could impede further RCS depressurization.

Proposed Answer: D

Explanation:

Technical Reference: EOP-1.0A STEP 14 BASIS

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

SYS.SI1.OB16-2

New

Question History:

Last NRC Exam

Cognitive Level:X

Memory or Fundamental Knowledge

Comprehension or Analysis**10 CFR Part 55 Content:****55.41** 10**55.43** **Comments:**

RO/SRO TEST QUESTION #: 23

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

1

1

Group #

1

K/A #

4.5.E02.EK1.02

Importance Rating

3.4

3.9

Proposed Question:

Following a LOCA, if the SI accumulators cannot be isolated, the correct action is to:

- A. continue with the following steps, since isolation is not required.
- B. drain the SI accumulators.
- C. sample the pressurizer steam space for noncondensibles.
- D. vent the SI accumulators.

Proposed Answer: D

Explanation:

Technical Reference: EOP-1.0A, STEP 15 BASIS

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

ERG.XDD.OB103-

1

New

Question History: Last NRC Exam

Cognitive Level: X

Memory or Fundamental Knowledge
Comprehension or Analysis

| | | |
|--------------------------------|--------------|--------------|
| 10 CFR Part 55 Content: | 55.41 | 8, 10 |
| | 55.43 | |

Comments:

RO/SRO TEST QUESTION #: 24

Examination Outline Cross-reference:

| | | |
|-------------------|-----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>1</u> |
| K/A # | <u>4.5.E04.EK1.01</u> | |
| Importance Rating | <u>3.5</u> | <u>3.9</u> |

Proposed Question:

In the event of a LOCA outside containment, performing ECA-1.2A, "LOCA Outside Containment" would NOT isolate the leak if it were through which path below?

- A. CCW piping arrangement
- B. RHR low pressure piping arrangement
- C. RHR piping and injection lines to the RCS
- D. SI piping and injection lines to the RCS

Proposed Answer: A

Explanation:

Technical Reference: ECA-1.2A

Proposed references to be provided to applicants during examination:

Learning Objective:**Question Source:**

Bank #

CPSES

Modified

SM1.XGH.OB102-1X

New

Question History:Last NRC Exam**Cognitive Level:**XMemory or Fundamental KnowledgeComprehension or Analysis**10 CFR Part 55 Content:****55.41** 8, 10**55.43** **Comments:**

Modification: altered stem and one distracter.

RO/SRO TEST QUESTION #: 25

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>1</u> |
| K/A # | <u>4.5.E01.EK2.01</u> | |
| Importance Rating | <u>3.3</u> | <u>3.5</u> |

Proposed Question:

Operators have correctly entered EOS-0.0A, "Rediagnosis" from EOP-0.0A "Reactor Trip or Safety Injection" and observe the following plant parameters:

- containment pressure is 15 psig
- RCS pressure is 1895 psig
- Hot Leg Temperature is 572 degrees F
- CST level is 9%
- CCP-1 is running
- All SG pressures are steady
- SG NR levels are 16%, 22%, 4%, and 17%

Based on these indications, EOS-0.0A, "Rediagnosis" directs the operators to:

- A. Transition to EOP-2.0A, "Faulted SG Isolation"
- B. Trip all RCP's
- C. Switch to alternate AFW supply per ABN-305 "AFW System Malfunction"
- D. Initiate Safety Injection

Proposed Answer: C

Explanation:

Foldout requires action due to CST level <10%; none of the other actions are prescribed by EOS-0.0A for the given indications.

Technical Reference: EOS-0.0A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
_____ Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 7, 10
55.43 5

Comments:

RO/SRO TEST QUESTION #: 26

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

1

1

Group #

2

1

K/A #

4.5.E01.EK2.02

Importance Rating

3.5

3.8

Proposed Question:

Unit 2 is operating in EOP-0.0B, REACTOR TRIP OR SAFETY INJECTION. The Reactor is tripped and safety injection has actuated. The following plant indications and responses are observed;

- Containment pressure is 8 psig and rising.
- RCS subcooling is 57°F.
- Both CCPs and SIPs are running.
- Both CCWPs are running.
- Pressurizer level is 13%.
- Pressurizer pressure is 1815 psig.
- Two banks of steam dumps are open.
- Tave is 563°F and rising.
- SG NR levels are at ~45%.

Based on the above information, from the list below **SELECT** the required action.

- A. Increase auxiliary feedwater flow to the steam generators.
- B. Take manual control of steam dumps and increase demand.
- C. Take manual control of SG ARVs and throttle to control temperature.
- D. Allow SG ARVs to automatically control temperature.

Proposed Answer: C

Technical Reference: EOP-0.0B

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

EO0.XG2.OB402-

2

New

Question History: Last NRC Exam

Cognitive Level: Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 7, 10

55.43 5

Comments:

RO/SRO TEST QUESTION #: 27

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>1</u> |
| K/A # | <u>4.2.001.AK2.05</u> | |
| Importance Rating | <u>2.9</u> | <u>3.1</u> |

Proposed Question:

Unit 1 is steady with reactor power at 90%. All systems are operating normally with the rod control system in automatic. Without warning, the rod motion lights indicate rods begin to step and Tavg begins to increase above Tref, which remains constant. Pressurizer pressure and level also begin to increase.

These symptoms are consistent with which of the following?

- A. PRZR pressure control system failure
- B. Main turbine/generator load increase
- C. Continuous rod insertion
- D. Continuous rod withdrawal

Proposed Answer: D

Explanation:

Technical Reference: ABN-712A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.CR1.OB09-1

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content:

55.41

 7

55.43

Comments:

RO/SRO TEST QUESTION #: 28

Examination Outline Cross-reference:

| | | |
|-------------------|-----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.5.E05.EK3.01</u> | |
| Importance Rating | <u>3.4</u> | <u>3.8</u> |

Proposed Question:

What adverse consequence could result from delaying feed and bleed cooling if the conditions are met in FRH-0.1B "Response to Loss of Secondary Heat Sink"?

- A. Inability to provide sufficient injection for core cooling due to high RCS pressure.
- B. High temperature induced failure of U-tube bends
- C. RCP seal failure
- D. Inability to recover the SGs without damage from high thermal stresses.

Proposed Answer: A

Explanation:

Technical Reference: FRH-0.1B

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 8340 Modified
New

Question History: Last NRC Exam Ginna 1 (WEC), 5/8/1996

Cognitive Level: Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 5, 10
55.43

Comments:

RO/SRO TEST QUESTION #: **29**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.5.E16.EK3.01</u> | |
| Importance Rating | <u>2.9</u> | <u>3.1</u> |

Proposed Question:

Unit 2 is operating at 100% power. Over twelve hours the following plant indications and responses were observed in the control room;

- Containment humidity increased slightly
- Containment radiation increased slightly
- Containment dew point increased slightly
- Containment sump pumps have operated 1 time every hour.
- Automatic makeup to the VCT occurred 7 times.
- Letdown was maintained at 70 gpm and charging went from 82 gpm to 78 gpm.
- Indicated Pressurizer level has remained at 60%.
- Pressurizer pressure has trended from 2235 psig to 2220 psig and stabilized.
- No other abnormal alarms are annunciated.

Based on the above indications the operating crew entered ABN-103 and the following actions were taken;

- Radiation Protection was contacted to investigate containment radiation.
- Preparations are in progress to make a containment entry.
- Radiation Protection and Radwaste were notified that containment sumps would be left in operation to the WHT.
- Letdown and charging have been isolated and then realigned for normal operation.
- OPT-303 has been performed and unidentified leakage is 6 gpm.
- Preparations are being made to commence a reactor shutdown.

Based on the above information, SELECT from the list below the source of the unidentified leakage.

- A. Reactor Coolant System cold leg leak.
- B. Reactor Coolant System hot leg leak.
- C. Pressurizer vapor space leak.
- D. Reactor Vessel flange leak.

Proposed Answer: C

Technical Reference: ABN-103A

Question Source:

Bank #

CPSES
SYS.RC1.OB14
010

Modified

New

Cognitive Level:

 Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:

55.41 5, 10

55.43

Comments:

RO/SRO TEST QUESTION #: 30

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>1</u> |
| K/A # | <u>4.5.E01.EK3.02</u> | |
| Importance Rating | <u>3.0</u> | <u>3.9</u> |

Proposed Question:

From the selection below regarding the Emergency Response Guidelines (ERG) usage rules, which of the below correctly states the intended purpose for EOS-0.0A, "Rediagnosis" ?

- A. To provide a means for determining the procedural transition when exiting Functional Restoration (FR) series ERG procedures.
- B. To provide a mechanism for the operator to determine or confirm the most appropriate post accident recovery procedure.
- C. To determine the appropriate recovery procedure after recovering station electrical power while performing ECA-0.0A for loss of all A.C. power.
- D. To provide a mechanism for the operator to determine whether an SI is required and transition to the appropriate procedure.

Proposed Answer: B

Explanation:

Technical Reference: EOS-0.0A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SJ1.XG5.OB101 -
001

Modified

New _____

Question History: Last NRC Exam _____

Cognitive Level:

X Memory or Fundamental Knowledge
____ Comprehension or Analysis

10 CFR Part 55 Content:

55.41 5, 10
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 31

Examination Outline Cross-reference:

| | | |
|-------------------|-----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.2.008.AK3.03</u> | |
| Importance Rating | <u>4.1</u> | <u>4.6</u> |

Proposed Question:

EOP-1.0A, "Loss of Reactor or Secondary Coolant," Step 1; "Check if RCPs should be stopped," is a continuous action step. Which ONE of the following is the basis for continuously monitoring for the criteria to perform this step in response to a LOCA?

- A. Minimize cooldown rate
- B. Prevent excessive RCS inventory loss
- C. Prevent RCP damage from cavitation
- D. Minimize RCP run time with less than the required subcooling

Proposed Answer: B

Explanation:**Technical Reference:** _____

Proposed references to be provided to applicants during examination: _____

Learning Objective: _____

Question Source: Bank # INPO 10769 Modified
New

Question History: Last NRC Exam Kewaunee 1 (WEC), 12/18/1997

Cognitive Level: Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 5, 10
55.43

Comments:

RO/SRO TEST QUESTION #: **32**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.5.E03.EK3.04</u> | |
| Importance Rating | <u>3.5</u> | <u>3.9</u> |

Proposed Question:

Unit 1 Pressurizer level is 89% and the RVLIS 49" above flange lights are dark and the plant computer indicates an INVENTORY yellow condition. The unit has experienced a small break LOCA and plant response is being directed by EOS-1.2A, POST-LOCA COOLDOWN AND DEPRESSURIZATION. ECCS flow has not been terminated. The Unit Supervisor has currently decided not to implement the yellow condition guideline. From the list below SELECT why this is or is not an acceptable decision.

- A. Transition has been made from EOP-0.0A, the yellow condition guideline should be implemented when EOS-1.2A is completed.
- B. There exist other, more critical plant conditions that should be addressed before implementation of the yellow condition guideline.
- C. Voids are not a concern when responding to a small break LOCA.
- D. The yellow condition guideline must be implemented immediately due to plant conditions.

Proposed Answer: B

Explanation:

Technical Reference: FRI-0.3A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
FRI.XH6.OB401
005

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:55.41 5, 1055.43 5**Comments:**

RO/SRO TEST QUESTION #: 33

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>3</u> | <u>2</u> |
| K/A # | <u>4.2.065.AA1.05</u> | |
| Importance Rating | <u>3.3</u> | <u>3.3</u> |

Proposed Question:

Unit 1 is in MODE 2 with a startup in progress when instrument air header pressure begins decreasing. Attempts to restart and align an instrument air compressor to Unit 1 are unsuccessful and instrument air header pressure reaches 30 psig. The RO opens the Reactor Trip Breakers and the crew enters EOP-0.0. Select the FIRST corrective action to be taken in response to this loss of Instrument air.

Dispatch a PEO to.....

- A. close the MSIVs.
- B. control charging flow.
- C. close the S/G ARVs.
- D. control AFW flow.

Proposed Answer: B

Explanation:

Technical Reference: ABN-301A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.IA1.OB14-
005

Modified

New _____

Question History: Last NRC Exam _____

Cognitive Level:

X Memory or Fundamental Knowledge
Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 34

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>4.2.028.AA1.07</u> | |
| Importance Rating | <u>3.3</u> | <u>3.3</u> |

Proposed Question:

The reactor is critical at 1.0E-8 Amps when charging pump suction inadvertently switches from the VCT to the RWST. This occurs for approximately 10 minutes, then is stopped by the operators. Which one of the following describes the comparative effect that this will have on letdown flow?

- A. It will decrease the most at EOL.
- B. It will decrease the most at BOL.
- C. It will not be significantly affected.
- D. It will increase the most at BOL.

Proposed Answer: C

Explanation:**Technical Reference:** _____

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 194 Modified
New

Question History: Last NRC Exam Arkansas Nuclear 2 (CE), 8/28/1998

Cognitive Level: Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 7
55.43

Comments:

RO/SRO TEST QUESTION #: **35**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>4.2.056.AA2.02</u> | |
| Importance Rating | <u>3.5</u> | <u>3.6</u> |

Proposed Question:

The plant is recovering from a loss of off-site power. Select the choice below which can be used as an indication that the Blackout Sequencer Operator Lockouts have reset (no longer present).

- A. OL light on the associated sequencer is lit.
- B. All step lights are lit on both sequencers.
- C. Start of RMUW pump on associated train.
- D. TD AFW pump steam supply valve opens.

Proposed Answer: C

Explanation:

Technical Reference: ABN-602A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # CPSES Modified
SYS.ES3.OB11-1
 New _____

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
 _____ Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10
55.43 5

Comments:

RO/SRO TEST QUESTION #: 36

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.7.015.A1.08</u> | |
| Importance Rating | <u>3.3</u> | <u>3.4</u> |

Proposed Question:

Which limiting safety system setting is varied to correct for changes in coolant density and specific heat capacity of the reactor coolant system?

- A. Overpower N-16
- B. Power Range High Flux
- C. Pressurizer Low Pressure
- D. Overtemperature N-16

Proposed Answer: D

Explanation:

Technical Reference: TS Bases 3.3.1

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 9124 Modified X
New

Question History: Last NRC Exam Cook 1 (WEC), 7/7/1997

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 5
55.43

Comments:

Modifications: Reworded question, changed answer, and replaced one distracter.

RO/SRO TEST QUESTION #: **37**

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.5.022.A1.02</u> | |
| Importance Rating | <u>3.6</u> | <u>3.8</u> |

Proposed Question:

The Containment Cooling System must normally maintain the interior containment average temperature below _____ because:

- A. 120°F, because this ensures the thermal stress on the containment structure does not exceed design limits.
- B. 280°F, because this ensures the thermal stress on the containment structure does not exceed design limits.
- C. 120°F, because this ensures the maximum containment internal pressure will not be exceeded during a DBA.
- D. 280°F, because this ensures the maximum containment internal pressure will not be exceeded during a DBA.

Proposed Answer: C

Explanation:

Technical Reference: TS Bases 3.6.5

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
_____ Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 5
55.43 _____

Comments:

RO (ONLY) TEST QUESTION #: **38**

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.5.022.A2.06</u> | |
| Importance Rating | <u>2.8</u> | <u>3.2</u> |

Proposed Question:

The containment design criteria are based on limiting the containment leakage rate under design basis accident conditions. According to the limiting containment analysis, containment pressure will:

- A. exceed the containment design pressure for a short time, but the containment spray system will ultimately restore containment pressure below the design limit.
- B. not exceed the containment design pressure initially. However, the analysis assumes a hydrogen burn that results in containment overpressure, which is ultimately controlled by the containment spray system.
- C. exceed the containment ultimate capacity, leading to a gross failure of the containment structure.
- D. not exceed the containment design pressure as long as a single train of containment spray system operates to perform its design function.

Proposed Answer: D

Explanation:

Technical Reference: ERG-HP/LP BACKGROUND, FRZ-0.1

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

MCO.MIF.OB102-1

New

Question History:

Last NRC Exam

Cognitive Level:X

Memory or Fundamental Knowledge

 Comprehension or Analysis**10 CFR Part 55 Content:****55.41**5**55.43**5**Comments:**

RO/SRO TEST QUESTION #: 39

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.4.059.A2.04</u> | |
| Importance Rating | <u>2.9</u> | <u>3.4</u> |

Proposed Question:

ECA-2.1A/B, "Uncontrolled Depressurization of All Steam Generators," identifies that Auxiliary Feedwater flow to each Steam Generator with a narrow range level of less than 5% must be controlled at a minimum of 100 gpm. Which of the following is the reason for the minimum flow requirement?

- A. Prevent Steam Generator tube dryout.
- B. Ensure adequate RCS subcooling margin.
- C. Maintain a verifiable cooldown rate.
- D. Prevent further Steam Generator depressurization.

Proposed Answer: A

Explanation:

Technical Reference: ECA-2.1A/B STEP 2 AND BASES

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

SK1.XG1.OB103-1

New

Question History: Last NRC Exam _____

Cognitive Level:

 X

Memory or Fundamental Knowledge

 Comprehension or Analysis

10 CFR Part 55 Content:

55.41

 5

55.43

 5

Comments:

RO/SRO TEST QUESTION #: **40**

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.7.072.A2.01</u> | |
| Importance Rating | <u>2.7</u> | <u>2.9</u> |

Proposed Question:

WHICH ONE of the following electrical power systems would affect the operation of the Unit 1 Control Room Intake Air Radiation Monitors when LOST?

- A. 118 VAC Protection System.
- B. QSPDS Power Supply System.
- C. 120 Volt Vital AC System.
- D. Non-Safety related 125 VDC System.

Proposed Answer: C

Explanation:

Technical Reference: Drawing E1-0018-H

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
 _____ Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 11
55.43 5

Comments:

RO (ONLY) TEST QUESTION #: **41**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

1

1

K/A #

3.2.004.A2.19

Importance Rating

2.8

3.5

Proposed Question:

During chloride cleanup in the RCS, the CVCS demineralizers flow is:

- A. maximized to aid in removal of the chlorides through filtration.
- B. bypassed to maximize flow through the filters which expedites chloride removal by filtration.
- C. maximized to aid in removal of chlorides through ion exchange.
- D. bypassed to maximize flow through the filters which expedites chloride removal by ion exchange.

Proposed Answer: C

Explanation:

Technical Reference: CHM-109

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam

Cognitive Level: X Memory or Fundamental Knowledge
Comprehension or Analysis

| | | |
|--------------------------------|--------------|----------|
| 10 CFR Part 55 Content: | 55.41 | 5 |
| | 55.43 | 5 |

Comments:

RO/SRO TEST QUESTION #: 42

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.4.061.A3.02</u> | |
| Importance Rating | <u>4.0</u> | <u>4.0</u> |

Proposed Question:

Given the following:

- ECA-2.1A, "Uncontrolled Depressurization of All Steam Generators," has been entered.
- SGs 1, 3, and 4 narrow range levels are 20%.
- SG 2 narrow range level is 40%.
- RCS pressure is 1200 psig and decreasing.
- RCS subcooling is 42 degrees F.
- Containment pressure is 14 psig.
- RCS cooldown rate is greater than 100 degrees F/hour.

Which one of the following actions should be taken for the given conditions?

- A. Stop AFW flow to all SGs until cooldown rate is less than 100 degrees F/hour.
- B. Reduce AFW flow to all SGs to 100 gpm until cooldown rate is less than 100 degrees F/hour.
- C. Maintain total AFW flow > or = 460 gpm until cooldown rate is less than 100 degrees F/hour.
- D. Reduce AFW flow to SG 2 to 100 gpm and stop AFW flow to SGs 1, 3, and 4 until cooldown rate is less than 100 degrees F/hour.

Proposed Answer: B**Explanation:****Technical Reference:** ECA-2.1A**Proposed references to be provided to applicants during examination:****Learning Objective:** _____**Question Source:**

Bank #

CPSES
EO2.XG4.OB900
001

Modified

New **Question History:**

Last NRC Exam _____

Cognitive Level:

| | |
|---------------|---------------------------------|
| <u> </u> | Memory or Fundamental Knowledge |
| <u>X</u> | Comprehension or Analysis |

10 CFR Part 55 Content:

| | |
|--------------|---------------|
| 55.41 | <u>7</u> |
| 55.43 | <u> </u> |

Comments:**RO/SRO TEST QUESTION #:** 43

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.2.004.A3.12</u> | |
| Importance Rating | <u>3.0</u> | <u>2.7</u> |

Proposed Question:

TCV-129 protects the BTRS demineralizers by:

- A. shutting the BTRS isolation valves at 155°F upstream of the BTRS demineralizers.
- B. diverting CVCS letdown flow to the VCT which stops flow through BTRS at 155°F upstream of the BTRS demineralizers.
- C. starting the BTRS chiller at 155°F upstream of the BTRS demineralizers.
- D. TCV-129 does not protect the BTRS demineralizers.

Proposed Answer: B

Explanation:

Technical Reference: SOP-106A SECTION 4.0

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.BT1.OB900
016

Modified

New

Question History: Last NRC Exam _____

Cognitive Level:

X Memory or Fundamental Knowledge
_____ Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7
55.43 _____

Comments:

RO/SRO TEST QUESTION #: **44**

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.4.003.A3.01</u> | |
| Importance Rating | <u>3.3</u> | <u>3.2</u> |

Proposed Question:

A caution in EOP-1.0A/B, "Loss of Reactor or Secondary Coolant" states that "seal injection flow should be maintained to all RCPs". After the Unit Supervisor has informed the operating crew of this caution, the RO checks seal injection flow and identifies that seal injection flow is approximately 20 gpm to each Reactor Coolant Pump.

Which of the following is the proper initial response to the current plant conditions?

- A. Quickly proceed to the ECCS Termination Criteria to determine if one CCP can be stopped.
- B. Reference ABN-101, "Reactor Coolant Pump Trip/Malfunction" for possible RCP No. 1 Seal Failure.
- C. Verify that HV-8801A and HV-8801B have not closed causing an increased flow through the RCP seal injection.
- D. Adjust charging flow control valve FCV-121 to obtain seal injection flow to within 6 to 13 gpm.

Proposed Answer: D

Explanation:

Technical Reference: EOP-1.0A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SJ3.XG2.OB104
009

Modified

New _____

Question History:

Last NRC Exam

Cognitive Level:

_____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:55.41 10

55.43 _____

Comments:

RO (ONLY) TEST QUESTION #: **45**

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.4.059.A4.11</u> | |
| Importance Rating | <u>3.1</u> | <u>3.3</u> |

Proposed Question:

Which ONE of the following Feedwater Isolation Signals (FWI) must be manually reset by pushing the FWI reset pushbuttons before the feedwater isolation valves may be opened?

- A. Containment Isolation
- B. Safety Injection
- C. Hi-Hi Steam Generator Level
- D. P-4 coincident with Lo Tave.

Proposed Answer: D

Explanation:

Technical Reference: SOP-302A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.MF1.OB07 -
 002

Modified

New

Question History: Last NRC Exam

Cognitive Level:

 X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7
55.43

Comments:

RO/SRO TEST QUESTION #: **46**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|------------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.9.068.G.2.3.4</u> | |
| Importance Rating | <u>2.5</u> | <u>3.1</u> |

Proposed Question:

What is the maximum curie content for the Gas Storage Tanks?

- A. Less than or equal to 200,000 Ci of Noble Gas (Xe-133 equivalent)
- B. Less than or equal to 100,000 Ci of Noble Gas (Xe-133 equivalent)
- C. Less than or equal to 200,000 Ci of Noble Gas (I-131 equivalent)
- D. Less than or equal to 100,000 Ci of Noble Gas (I-131 equivalent)

Proposed Answer: A

Explanation:

Technical Reference: TRM 13.10.32

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
_____ Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 13
55.43 4

Comments:

RO/SRO TEST QUESTION #: **47**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

1

1

K/A #

3.7.015.K1.03

Importance Rating

3.1

3.1

Proposed Question:

A normal reactor startup is planned for the unit following maintenance on excore nuclear instrumentation. Believing a problem may still exist, the RO is directed to closely observe source range operation throughout the evolution. Which one of the following is an indicator that the source range channel failed high during the reactor startup? Assume that the reactor trips.

- A. Rod withdrawal block
- B. P-6 energized
- C. P-10 energized
- D. Flux Doubling Alarm is lit

Proposed Answer: D

Explanation:

Technical Reference: ALM-0064

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

SYS.EC1.OB10-2

New

Question History: Last NRC Exam

Cognitive Level:

Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content:

55.41 2, 9

55.43

Comments:

RO/SRO TEST QUESTION #: 48

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.7.017.K1.02</u> | |
| Importance Rating | <u>3.3</u> | <u>3.5</u> |

Proposed Question:

With Hot leg recirc. in progress, which of the following temperature indications should be used to monitor RCS temperature?

CET Temperature equal to:

- A. Representative CET
- B. Hot leg RTD
- C. Cold leg RTD
- D. Subcooled Margin Monitor

Proposed Answer: A

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 3145 Modified
New

Question History: Last NRC Exam Waterford 3 (WEC), 9/6/1996

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 2
55.43

Comments:

RO (ONLY) TEST QUESTION #: **49**

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.1.001.K1.05</u> | |
| Importance Rating | <u>4.5</u> | <u>4.4</u> |

Proposed Question:

An approach to criticality is being performed by means of control rod withdrawal. The RO stops control rod motion when the reactor is close to criticality but still subcritical. The SR count rate should:

- A. continue to increase, but at a slower rate. The startup rate should stabilize at a lower positive value.
- B. continue to increase and then gradually plateau. The startup rate should gradually decrease to zero.
- C. stop increasing and stabilize at its present value. The startup rate should immediately decrease to zero.
- D. begin to slowly decrease. The startup rate should gradually decrease to zero from a slightly negative value.

Proposed Answer: B

Explanation:

Technical Reference: IPO-002A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
IPO.XO2.OB900-
012

Modified

New _____

Question History:

Last NRC Exam _____

Cognitive Level:

_____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:

55.41 2, 9
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 50

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.7.015.K1.01</u> | |
| Importance Rating | <u>4.1</u> | <u>4.2</u> |

Proposed Question:

As the Unit 1 power passes through 50% during a power increase, the Reactor Operator notes that the P-8 permissive lamp on the PCIP suddenly goes dark. This is an indication that:

- A. The single loop low flow reactor trip has been unblocked
- B. The single loop low flow reactor trip has been blocked
- C. The Rx trip on turbine trip has been unblocked
- D. The Rx trip on turbine trip has been blocked

Proposed Answer: A

Explanation:

Technical Reference: TS 3.3.1

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 2, 9
55.43 _____

Comments:

RO (ONLY) TEST QUESTION #: **51**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.4.003.K1.01</u> | |
| Importance Rating | <u>2.6</u> | <u>2.8</u> |

Proposed Question:

Per SOP-108A, a running RCP Oil Lift Pump is stopped:

- A. immediately after its associated RCP has started.
- B. one minute after its associated RCP has stopped.
- C. one minute after its associated RCP has started.
- D. immediately before its associated RCP is stopped.

Proposed Answer: C

Explanation:

Technical Reference: SOP-108A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
_____ Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 2, 9
55.43 _____

Comments:

RO/SRO TEST QUESTION #: **52**

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.4.003.K1.10</u> | |
| Importance Rating | <u>3.0</u> | <u>3.2</u> |

Proposed Question:

The following conditions exist:

- RCS temperature - 340 degrees F
- Steam Generator pressure - 50 psig
- A bubble exists in the Pressurizer

Which ONE of the following statements would describe the initial primary plant response if a Reactor Coolant Pump were started?

| | RCS temperature | RCS pressure |
|----|--------------------|-----------------|
| A. | INCREASE | INCREASE |
| B. | INCREASE | DECREASE |
| C. | DECREASE | INCREASE |
| D. | DECREASE | DECREASE |

Proposed Answer: D

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 16073 Modified
New

Question History: Last NRC Exam Byron 1 (WEC), 10/14/1996

Cognitive Level: Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 1, 2
55.43

Comments:

RO (ONLY) TEST QUESTION #: **53**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.5.022.K3.02</u> | |
| Importance Rating | <u>3.0</u> | <u>3.3</u> |

Proposed Question:

Which plant condition will most likely cause a RV FLANGE LKOFF TEMP HI alarm?

- A. Loss of Ventilation Chillers 1, 2, 3 and 4.
- B. Loss of Ventilation Chillers 7, 8 and 9.
- C. Loss of power to 1PC1.
- D. Loss of power to 1C1.

Proposed Answer: A

Explanation:

Technical Reference: ALM-0053A, Window 1.1

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES
SYS.RC1.OB04

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

X

Memory or Fundamental Knowledge

 Comprehension or Analysis

10 CFR Part 55 Content:

55.41

7

55.43

Comments:

RO/SRO TEST QUESTION #: **54**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

1

1

K/A #

3.4.061.K3.02

Importance Rating

4.2

4.4

Proposed Question:

In the event of a total loss of all feedwater, three options for restoration of core cooling are analyzed. Which of the below is **NOT** an analyzed option?

- A. manual opening of the PORV(s) to depressurize the RCS
- B. manual opening of the SG ARVs to allow AFW flow to the SGs
- C. manual initiation of safety injection for core cooling
- D. restoration of AFW to reestablish the SGs as a heat sink

Proposed Answer: B

Explanation:

Technical Reference: LO21.MCO.MI4.LN

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

MCO.MI4.OB103 -
006

New

Question History: Last NRC Exam

Cognitive Level: X Memory or Fundamental Knowledge
Comprehension or Analysis

| | | |
|-------------------------|-------|---|
| 10 CFR Part 55 Content: | 55.41 | 7 |
| | 55.43 | |

Comments:

RO/SRO TEST QUESTION #: 55

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.4.061.K4.01</u> | |
| Importance Rating | <u>4.1</u> | <u>4.2</u> |

Proposed Question:

Given the following:

- o The Unit is in mode 3.
- o A loss of offsite power has occurred.
- o Steam is being released through the S/G ARV's.

What is the minimum level required in the CST to support cooldown to RHR entry conditions?

- A. 63%
- B. 69%.
- C. 53%.
- D. 59%.

Proposed Answer: C

Explanation:

Technical Reference: TS 3.7.6

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified X
New _____

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 10
55.43 _____

Comments:

RO (ONLY) TEST QUESTION #: **56**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.2.013.K4.12</u> | |
| Importance Rating | <u>3.7</u> | <u>3.9</u> |

Proposed Question:

WHICH ONE (1) of the following describes the design interlock or operating practice that is used to prevent ALL automatic Safety Injection (SI) actuations following a reset of the SI signal?

- A. The sixty (60) second delay timer in the SI reset circuitry.
- B. Manually blocking steam line pressure and PZR pressure SI from the control board.
- C. The seal-in feature of the reset circuitry disarms all subsequent SI actuations.
- D. The P-4 interlock, actuated by the opening of the reactor trip breakers.

Proposed Answer: D

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 4225 Modified
New

Question History: Last NRC Exam Harris 1 (WEC), 2/24/1997

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 7
55.43

Comments:

RO/SRO TEST QUESTION #: **57**

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.1.001.K4.23</u> | |
| Importance Rating | <u>3.4</u> | <u>3.8</u> |

Proposed Question:

During a 10% step load increase, the operator observes:

- 855 MWe (stable)
- Tave - Tref error = 8°F (Tave 8°F low)
- 68% RTP (increasing)
- all controls in automatic
- RCS Pressure is 2220 psig

Which of the below describes a possible response of the rod control system during this transient?

- A. OPNI6 rod stop (C-4) prevents outward rod motion.
- B. Increasing Rx power with constant turbine load causes Rods to move out.
- C. Increasing Rx Power input offsets Temperature error input to Rod Control System which causes Rods to remain unmoved.
- D. OTN16 rod stop (C-3) prevents outward rod motion.

Proposed Answer: C

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # CPSES Modified
MCO.TA2.OB103
 New _____

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 7
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 58

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.2.013.K6.01</u> | |
| Importance Rating | <u>2.7</u> | <u>3.1</u> |

Proposed Question:

With one Hi containment pressure detector failed low, an Engineered Safety Features (ESF) Containment Hi-3 Pressure signal would require:

- A. 2/2 remaining Hi containment pressure detectors sense pressure \geq 3.2 psig.
- B. 2/2 remaining Hi containment pressure detectors sense pressure \geq 18.2 psig.
- C. 2/3 remaining Hi containment pressure detectors sense pressure \geq 18.2 psig.
- D. 2/3 remaining Hi containment pressure detectors sense pressure \geq 3.2 psig.

Proposed Answer: C

Explanation:

Technical Reference: ALM-0022A (ALB 2B, 3.10)

Proposed references to be provided to applicants during examination:

Learning Objective:**Question Source:**

Bank #

CPSES

Modified

SYS.CT1.OB04-3X

New

Question History:

Last NRC Exam

Cognitive Level:X

Memory or Fundamental Knowledge

 Comprehension or Analysis**10 CFR Part 55 Content:****55.41**7**55.43****Comments:**

Modified: altered stem and one distracter

RO/SRO TEST QUESTION #: 59

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.7.012.A1.01</u> | |
| Importance Rating | <u>2.9</u> | <u>3.4</u> |

Proposed Question:

During the performance of OPT-309, "Unit Calorimetric", the feedwater temperature points utilized were reading 10°F LOWER than actual feedwater temperature. Power range nuclear instruments adjustments were performed per the OPT.

What is the status of the current power range indications?

- A. Indicated power is LESS THAN actual power; therefore, power range instruments are set CONSERVATIVELY.
- B. Indicated power is LESS THAN actual power; therefore, power range instruments are set NON-CONSERVATIVELY.
- C. Indicated power is GREATER THAN actual power; therefore, power range instruments are set NON-CONSERVATIVELY.
- D. Indicated power is GREATER THAN actual power; therefore, power range instruments are set CONSERVATIVELY.

Proposed Answer: D

Explanation:

Technical Reference: LO21.SF4.XOC, OPT-309

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

SF4.XOC.OB103-1New **Question History:**

Last NRC Exam _____

Cognitive Level: Memory or Fundamental Knowledge X Comprehension or Analysis**10 CFR Part 55 Content:****55.41** 5, 14 **55.43** **Comments:**

RO/SRO TEST QUESTION #: **60**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.2.022.AA2.03</u> | |
| Importance Rating | <u>3.1</u> | <u>3.6</u> |

Proposed Question:

Following a loss of Instrument Air, how would the operator expect the Reactor Makeup System to respond?

NOTE: Valve Labels are as follows:

FCV-0110A = "BA to BA BLNDR 1-01 FLO CTRL VLV"

FCV-0110B = "U1 RCS MU to CHRG PMP FLO CTRL VLV"

FCV-0111A = "RCS MU to VCT 1-01 ISOL VLV"

FCV-0111B = "RMUW to CVCS BA BLNDR 1-01 FLO CTRL VLV"

- A. FCV-0110A and B fail closed, and FCV-0111A and B fail open.
- B. FCV-0110A and B fail open, and FCV-0111A and B fail closed.
- C. FCV-0111A and B and FCV-0110B fail open, while FCV-0110A fails closed.
- D. FCV-0111A and B and FCV-0110B fail closed, while FCV-0110A fails open.

Proposed Answer: D

Explanation:

Technical Reference: ABN-301; M1-0255; M1-2255

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.CS2.OB11-
001

Modified

New

Question History: Last NRC Exam

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: 55.41 5, 10
55.43 2

Comments:

RO/SRO TEST QUESTION #: 61

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.6.062.A2.09</u> | |
| Importance Rating | <u>2.7</u> | <u>3.0</u> |

Proposed Question:

Current flow to ground is limited in a neutral grounding transformer by:

- A. the reflected impedance of the secondary into the primary.
- B. a parallel current limiting resistor.
- C. a protective overcurrent relay.
- D. a circuit breaker

Proposed Answer: A

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

SYS.AC2.OB900 -
002

New

Question History: Last NRC Exam

Cognitive Level: X

Memory or Fundamental Knowledge

 Comprehension or Analysis

10 CFR Part 55 Content:

55.41 5

55.43 5

Comments:

RO/SRO TEST QUESTION #: **62**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.7.073.A2.01</u> | |
| Importance Rating | <u>2.5</u> | <u>2.9</u> |

Proposed Question:

WHICH ONE (I) of the following actions occur upon loss of power to the Containment Atmosphere Particulate Radioactivity Monitor (RM-80)?

- A. Containment purge isolation will occur.
- B. A loss of process sample flow occurs which causes a high radiation alarm due to detector integration.
- C. A loss of process sample flow occurs which blocks any actuation from the RM-80.
- D. Phase "A" isolation will occur from fail safe relays in the RM-80.

Proposed Answer: A

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 4252 Modified
New

Question History: Last NRC Exam Harris 1 (WEC), 2/24/1997

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 11
55.43 5

Comments:

RO (ONLY) TEST QUESTION #: **63**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

K/A #

3.2.011.A2.04

Importance Rating

3.5

3.7

Proposed Question:

Unit 1 is in the following configuration: RCS pressure is 300 psig, Tavg is 300°F, and Train "A" RHR is in the shutdown cooling mode. At this point, pressurizer level starts decreasing rapidly with flow controller FK-121 fully open.

Select the correct action to be taken if pressurizer level continues to decrease.

- Unisolate the Safety Injection Accumulators.
- Reduce letdown flow - transfer to the 45 gpm orifice.
- Start all available charging pumps.
- Reset containment isolation Phase A and B.

Proposed Answer: C

Explanation:

Technical Reference: ABN-108

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES
SYS.RC1.OB30 -
032

Modified

New

Question History: Last NRC Exam

Cognitive Level: Memory or Fundamental Knowledge

| | |
|---|---------------------------|
| X | Comprehension or Analysis |
|---|---------------------------|

10 CFR Part 55 Content: **55.41 5**

55.43 5

Comments:

RO/SRO TEST QUESTION #: 64

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>1</u> |
| K/A # | <u>3.5.026.A3.01</u> | |
| Importance Rating | <u>4.3</u> | <u>4.5</u> |

Proposed Question:

A large break LOCA has occurred on Unit 1. Given the following conditions:

- Containment pressure is 22 psig
- Containment Spray failed to automatically initiate
- Manual handswitch actuation of Containment Spray was also unsuccessful

Which ONE of the following describes the required operator actions following manual start of Containment Spray Pumps?

- A. Verify CS Heat Exchanger Outlet valves are OPEN; manually OPEN Chemical Additive Tank Discharge valves.
- B. Manually OPEN CS Heat Exchanger Outlet valves; manually OPEN Chemical Additive Tank Discharge valves.
- C. Manually OPEN CS Heat Exchanger Outlet valves; verify Chemical Additive Tank Discharge valves are OPEN.
- D. Verify CS Heat Exchanger Outlet valves are OPEN; verify Chemical Additive Tank Discharge valves are OPEN.

Proposed Answer: B

Explanation:

Technical Reference: SOP-204A, FRZ-0.1A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 65

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.4.055.A3.03</u> | |
| Importance Rating | <u>2.5</u> | <u>2.7</u> |

Proposed Question:

Given the following conditions:

-CEV 1-01 is in standby

-1PS-2971A (CEV 1-01 SUCT VLV 2971A pressure switch) is failed as is

If Main Condenser vacuum decreases to 23" with this alignment, how will CEV operation be affected?

- A. CEV 1-02 will eventually trip.
- B. CEV 1-01 will start on low vacuum, and 1-HV-2956 will open.
- C. CEV 1-01 will NOT start on low vacuum, and 1-HV-2956 will NOT open.
- D. CEV 1-01 will start on low vacuum, but 1-HV-2956 will NOT open.

Proposed Answer: D

Explanation:

Technical Reference: M1-2211, SH 02

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.CV1.OB106-
003

Modified

New

Question History: Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7
55.43

Comments:

RO/SRO TEST QUESTION #: **66**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

2

2

K/A #

3.8.029.A4.04

Importance Rating

3.5

3.6

Proposed Question:

While a fuel assembly was being lowered into the Reactor vessel core, the Reactor Operator notes that the High Flux At Shutdown Alarm begins alarming. The control room should direct the following action:

- A. Movement of the fuel assembly must cease immediately. Containment evacuation is required.
- B. Core alterations may continue as long as the criticality alarm is NOT alarming. Containment evacuation is NOT required.
- C. Movement of the fuel assembly shall continue to place it in a safe location. Containment evacuation is required.
- D. Core alteration may continue as long as Containment Integrity is met. Containment evacuation is NOT required.

Proposed Answer: C

Explanation:

Technical Reference: TS 3.9; RFO-102, RFO-302

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES
RFO.SYE.OB404
002

Modified

New

Question History: Last NRC Exam

Cognitive Level:

| | |
|-----------------|---------------------------------|
| <u> </u> | Memory or Fundamental Knowledge |
| X | Comprehension or Analysis |

10 CFR Part 55 Content:

55.41 7
55.43

Comments:

RO/SRO TEST QUESTION #: 67

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-------------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.7.012.G.2.2.22</u> | |
| Importance Rating | <u>3.4</u> | <u>4.1</u> |

Proposed Question:

While in mode 4 with one Control Bank rod indicating at 9 steps, which of the following conditions requires entry into a Technical Specification LCO?

- A. One Source Range Nuclear Instrument is inoperable.
- B. Planned maintenance on a Centrifugal Charging Pump.
- C. Maintenance on a Power Range Nuclear Instrument.
- D. One channel of Pressurizer Pressure Instrument fails low.

Proposed Answer: A

Explanation:

Technical Reference: TS SECTION 3.3.1-1

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 2, 7, 10
55.43 2

Comments:

RO (ONLY) TEST QUESTION #: **68**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.2.006.K2.02</u> | |
| Importance Rating | <u>2.5</u> | <u>2.9</u> |

Proposed Question:

Upon loss of all a/c power while operating in mode 1 at 100% power, how will the SIS Accumulator Isolation Valves respond?

- A. SIS Accumulator Isolation Valves are air operated and remain operable.
- B. They will fail open.
- C. They will fail shut.
- D. They will fail as-is.

Proposed Answer: D

Explanation:

The SIS Accumulator Isolation Valves are motor operated and will not change positions on loss of their 480v power supply.

Technical Reference: Drawings M1-0262, M1-2262, E1-0005, E1-0009

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 3, 7
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 70

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

K/A #

3.4.035.K3.01

Importance Rating

4.4

4.6

Proposed Question:

Due to a malfunction with the S/G Blowdown Mixed Bed Demineralizer Outlet Radiation Valve, S/G Blowdown flow has isolated. What effect does this have on Reactor power if the unit is operating at 80% RTP?

- A. Reactor power increases slightly.
B. Reactor power decreases slightly.
C. Reactor power remains the same.
D. Reactor power decreases initially, and slowly rises back to original value.

Proposed Answer: B

Explanation:

Technical Reference: DBD-ME-0239

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

SYS.SB1.OB06-1

New

Question History: Last NRC Exam

Cognitive Level:

Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content:

55.41

5

55.43

Comments:

RO/SRO TEST QUESTION #: 71

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.7.016.K3.08</u> | |
| Importance Rating | <u>3.5</u> | <u>3.7</u> |

Proposed Question:

Unit 1 is operating at 100% power with all control systems in their normal alignment when the Pressurizer Pressure Instrument selected for control to the Pressurizer Master Pressure Controller fails high. Which of the below actions will occur? (assume no operator actions)

- A. PCV-455A will open and not re-close.
- B. PCV-456 will open and not re-close.
- C. PCV-456 will open and re-close at 2185 psig.
- D. PCV-455A will open and re-close at 2185 psig.

Proposed Answer: D

Explanation:

Technical Reference: LO21.MCO.TA3.LP

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

MCO.TA3.OB102 -
24

New

Question History:

Last NRC Exam

Cognitive Level:

 X

Memory or Fundamental Knowledge

Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7

55.43

Comments:

RO/SRO TEST QUESTION #: **72**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.4.035.K4.06</u> | |
| Importance Rating | <u>3.1</u> | <u>3.4</u> |

Proposed Question:

The _____ are designed to prevent overpressurization of the S/Gs.

- A. S/G Atmospherics
- B. Main Steam Safety Valves
- C. LP Turbine Atmospheric Relief Diaphragms
- D. MSR Relief Valves

Proposed Answer: B

Explanation:

Technical Reference: OP51.SYS.MR1

Proposed references to be provided to applicants during examination:

Learning Objective: _____**Question Source:**

Bank #

CPSES

Modified

SYS.MR1.OB03-1

New

Question History:

Last NRC Exam

Cognitive Level: X

Memory or Fundamental Knowledge

 Comprehension or Analysis**10 CFR Part 55 Content:****55.41** 7 **55.43****Comments:**

RO (ONLY) TEST QUESTION #: 73

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.8.029.K4.03</u> | |
| Importance Rating | <u>3.2</u> | <u>3.5</u> |

Proposed Question:

With the Unit in Mode 5, which of the following automatic actions will occur when the Containment Air Gas Radiation (CAG 197) Monitor reaches a High alarm condition?

- A. A Containment Isolation Signal and a Phase-A Signal will be generated.
- B. The Purge Supply and Exhaust Dampers will close unless SSPS is in mode 5/6 line up.
- C. The Purge Supply and Exhaust Dampers will close.
- D. Primary Plant Ventilation ESF Filter units start.

Proposed Answer: C

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination: _____

Learning Objective: _____

Question Source: Bank # INPO 588 Modified
New

Question History: Last NRC Exam Beaver Valley 2 (WEC), 3/17/1997

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7
 55.43

Comments:

RO (ONLY) TEST QUESTION #: 74

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.7.073.K4.01</u> | |
| Importance Rating | <u>4.0</u> | <u>4.3</u> |

Proposed Question:

If the S/G Blowdown Mixed Bed Demineralizer Outlet Radiation Monitor was to lose power, what effect would this have on the S/G Blowdown System?

- A. The Control Room would not receive warning of S/G Blowdown Demineralizer resin exhaustion.
- B. The radiation valve would close and all S/G Blowdown flow stops.
- C. The radiation valve will be unable to perform its intended function.
- D. The Control Room would receive a S/G Blowdown Panel trouble alarm and the system will continue to operate.

Proposed Answer: B

Explanation:

Technical Reference: E1-0040, Sh 97, ALM-3200 att 3

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank # CPSES Modified
SYS.SB1.OB09-2
 New _____

Question History: Last NRC Exam _____

Cognitive Level:

X Memory or Fundamental Knowledge
 _____ Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7
55.43 4

Comments:

RO/SRO TEST QUESTION #: 75

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.8.086.K4.01</u> | |
| Importance Rating | <u>3.1</u> | <u>3.7</u> |

Proposed Question:

A fire has been reported in the Aux. Building. The Fire Brigade has responded and is using the Fire Protection Hose Stations to fight the fire. Which ONE of the following describes the response of the fire pumps to decreasing fire header pressure?

- A. The diesel driven pumps start at 142 psig and the electric fire pump starts if pressure is not raised above 120 psig in 10 seconds.
- B. One diesel driven fire pump starts at 148 psig and the electric fire pump starts at 120 psig.
- C. The electric fire pump starts at 142 psig and one diesel driven fire pump starts in 10 seconds if pressure is not above 140 psig.
- D. The electric fire pump starts at 142 psig; one diesel driven fire pump starts at 120 psig; the other diesel driven fire pump starts in 10 seconds if pressure is not raised above 120 psig.

Proposed Answer: C

Explanation:

Technical Reference: SOP-904

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.FP1.OB106-
001

Modified

New _____

Question History:

Last NRC Exam _____

Cognitive Level:

X Memory or Fundamental Knowledge
____ Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7
55.43 _____

Comments:

RO/SRO TEST QUESTION #: **76**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.4.035.K4.05</u> | |
| Importance Rating | <u>2.9</u> | <u>3.2</u> |

Proposed Question:

The following conditions are observed on Unit 2 at the moment of a reactor trip:

Reactor Power = 29 %

S/G NR Level = 27 %

One Reactor Coolant Pump has just tripped off

Which of the following statements are the likely to be true regarding the reactor trip?

- A. The reactor tripped on S/G Water Level Low-Low to prevent a loss of heat sink.
- B. The reactor tripped on S/G Water Level Low-Low to prevent a loss of level indication.
- C. The reactor tripped on P-8 interlock to ensure adequate margins to DNB are maintained.
- D. The reactor tripped on P-8 interlock to prevent exceeding peak fuel centerline temperature limits.

Proposed Answer: A

Explanation:

Power is below the P-8 Low Flow trip block of 39%, and the purpose of SG Low-Low Level trip is to prevent loss of heat sink, not loss of level indication.

Technical Reference: TS TABLE 3.3.1-1

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: _____ **Bank #** _____ **Modified** _____
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 4, 6, 8
55.43 _____

Comments:

RO (ONLY) TEST QUESTION #: 77

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.8.086.K4.03</u> | |
| Importance Rating | <u>3.1</u> | <u>3.7</u> |

Proposed Question:

The Unit 2 Safeguards PEO has reported that the 2-02 Diesel Generator Starting Air Compressor is extremely warm. If a fire were to occur on this component a local.....

- A. ionization smoke detector would detect the fire and initiate the deluge system.
- B. thermal detector would detect the fire and provide alarms.
- C. thermal detector would detect the fire and initiate the deluge system.
- D. ionization smoke detector would detect the fire and provide alarms.

Proposed Answer: D

Explanation:

Technical Reference: ABN-901 att1 & 5

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.FP1.OB303 -
001

Modified

New

Question History: Last NRC Exam

Cognitive Level:

 X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7
55.43

Comments:

RO/SRO TEST QUESTION #: **78**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.3.010.K5.02</u> | |
| Importance Rating | <u>2.6</u> | <u>3.0</u> |

Proposed Question:

The pressurizer is being maintained at 2000 psia and 636 °F when one of the Power-Operated Relief Valves (PORVs) starts to leak to the Pressurizer Relief Tank (PRT). The PRT pressure is maintained at 5 psig. The TEMPERATURE of the fluid immediately downstream of the PORV is approximately:

- A. 220°F
- B. 240°F
- C. 230°F
- D. 250°F

Proposed Answer: C

Explanation:

The process is isenthalpic and the fluid downstream of the PORV is at the same pressure as the PRT. Assume Containment pressure is 15 psia. Convert PRT pressure from psig to psia:

- PRT pressure = 5 psig + 15 psi = 20 psia.
- From Steam Table 2 (or the Mollier Diagram),
- Tsat (20 psia) = 228 °F (approx. 230 °F).

Technical Reference: OP51.SYS.PP1.LN

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.PP1.OB09-7

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content:

55.41 5
55.43

Comments:

RO/SRO TEST QUESTION #: 79

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>3.8.008.A2.04</u> | |
| Importance Rating | <u>3.3</u> | <u>3.5</u> |

Proposed Question:

Unit 1 is operating at 100% power in normal alignment when the following events occur:

- A rupture develops in RCP 1-01 thermal barrier.
- ONE of the CCW radiation monitors has just gone into alarm.
- CCW surge tank level reads 80%.
- CCW flow from RCP thermal barriers has increased to 70 gpm on RCP 1-01.
- CCW thermal barriers return temperature is 170°F and rising.

Which one of the following describes current condition of the CCW thermal barrier return containment isolation valves, and RCP 1-01 thermal barrier outlet?

- A. RCP 1-01 thermal barrier CCW outlet valve closes and the thermal barrier return CCW containment isolation valve IRC closes.
- B. RCP 1-01 thermal barrier CCW outlet valve remains open and the thermal barrier return CCW containment isolation valve IRC closes.
- C. RCP 1-01 thermal barrier CCW outlet valve closes and the thermal barrier return CCW containment isolation valve IRC remains open.
- D. RCP 1-01 thermal barrier CCW outlet valve remains open and the thermal barrier return CCW containment isolation valve IRC remains open.

Proposed Answer: B

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination: _____

Learning Objective: _____

Question Source: Bank # INPO 5100 Modified
New

Question History: Last NRC Exam Turkey Point 4 (WEC), 8/7/1998

Cognitive Level: Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: 55.41 11
55.43 5

Comments:

RO/SRO TEST QUESTION #: 80

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>3.4.045.K1.06</u> | |
| Importance Rating | <u>2.6</u> | <u>2.6</u> |

Proposed Question:

Which of the following conditions will actuate the "MSIV #1 TEST FAILED" alarm?

- A. MSIV-1 fails to reach 90% open in 10 seconds or less.
- B. MSIV-1 fails to reach 90% open in 20 seconds or less.
- C. MSIV-1 closes 10% and fails to return to full open.
- D. MSIV-1 closes more than 10% during the test.

Proposed Answer: B

Explanation:

Technical Reference: OP51.SYS.MR1.OB20

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

SYS.MR1.OB20-1

New

Question History:

Last NRC Exam

Cognitive Level:

 X

Memory or Fundamental Knowledge

 Comprehension or Analysis

10 CFR Part 55 Content:

55.41

 7

55.43

Comments:

RO/SRO TEST QUESTION #: **81**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

3

3

K/A #

3.4.076.K1.01

Importance Rating

3.4

3.3

Proposed Question:

Which of the following is directly cooled by the Station Service Water System?

- A. CCW Heat Exchanger
B. RHR heat exchanger
C. Instrument Air Compressors
D. UPS Air Conditioning Unit Condensers

Proposed Answer: A

Explanation:

Technical Reference: OP51.SYS.SW1

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES
SYS.SW1.OB02-
11

Modified

New

Question History: Last NRC Exam

Cognitive Level:

| | |
|----------|---------------------------------|
| <u>X</u> | Memory or Fundamental Knowledge |
| | Comprehension or Analysis |

| | | |
|-------------------------|-------|---|
| 10 CFR Part 55 Content: | 55.41 | 4 |
| | 55.43 | |

Comments:**RO (ONLY) TEST QUESTION #: 82**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

3

3

K/A #

3.4.076.K2.01

Importance Rating

2.7

2.7

Proposed Question:

Which of the following components is powered from the safeguards 6.9 KV buses?

- A. CWP_s
- B. RCP_s
- C. HDP_s
- D. SSWP_s

Proposed Answer: D

Explanation:

Technical Reference: E1-0003, E1-0004

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES
SYS.AC2.OB03 -
004

Modified

New

Question History: Last NRC Exam

Cognitive Level: X Memory or Fundamental Knowledge
Comprehension or Analysis

| | | |
|-------------------------|-------|---|
| 10 CFR Part 55 Content: | 55.41 | 4 |
| | 55.43 | |

Comments:

RO/SRO TEST QUESTION #: 83

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>3.4.045.K4.47</u> | |
| Importance Rating | <u>4.0</u> | <u>4.3</u> |

Proposed Question:

A reactor trip generates a turbine trip by:

- A. deenergizing the remote trip solenoids in the EHC system.
- B. deenergizing the main trip valve in the EHC system.
- C. energizing the remote trip solenoids in the EHC system.
- D. energizing the main trip valve in the EHC system.

Proposed Answer: C

Explanation:

Technical Reference: CP-0003-26,sect 12

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.MT1.OB27 -
001

Modified

New

Question History: Last NRC Exam

Cognitive Level:

 X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7
55.43

Comments:

RO (ONLY) TEST QUESTION #: **84**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

3

3

K/A #

3.5.007.K4.01

Importance Rating

2.6

2.9

Proposed Question:

What is a disadvantage of using the RCDT method to cool the water in the PRT?

- A. May take up to 24 hours to cool down the PRT.
- B. Requires a TS LCO entry.
- C. May take up to 8 hours to cool down the PRT.
- D. Maximum flow through LCV-1003 is limited by the heat exchanger.

Proposed Answer: C

Explanation:

Technical Reference: SOP-110A, Section 5.4

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES
SYS.RC1.OB15 -
003

Modified

New

Question History: Last NRC Exam

Cognitive Level: X Memory or Fundamental Knowledge
Comprehension or Analysis

| | | |
|-------------------------|-------|---|
| 10 CFR Part 55 Content: | 55.41 | 4 |
| | 55.43 | |

Comments:**RO (ONLY) TEST QUESTION #: 85**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>3</u> | <u>2</u> |
| K/A # | <u>3.5.028.K5.02</u> | |
| Importance Rating | <u>3.4</u> | <u>3.9</u> |

Proposed Question:

Systems which are used to control the buildup of combustible gas inside the Containment Building are the:

- A. Catalytic Hydrogen Recombiners and the Waste Gas Processing System
- B. Containment Preaccess Filtration and the Containment Purge Supply and Exhaust System.
- C. Electric Hydrogen Recombiners and the Hydrogen Purge Supply and Exhaust System.
- D. Containment Air Cooling and Recirculation System and the Containment Preaccess Filtration System.

Proposed Answer: C

Explanation:

Technical Reference: CP-0001-41

Proposed references to be provided to applicants during examination:

Learning Objective:**Question Source:**

Bank #

CPSES
SYS.CY1.OB104
- 002

Modified

New

Question History:

Last NRC Exam

Cognitive Level:X

Memory or Fundamental Knowledge

Comprehension or Analysis

10 CFR Part 55 Content:**55.41**5**55.43****Comments:**

RO/SRO TEST QUESTION #: 86

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>3</u> | <u>2</u> |
| K/A # | <u>3.5.028.K6.01</u> | |
| Importance Rating | <u>2.6</u> | <u>3.1</u> |

Proposed Question:

While operating at 100% power on Unit 2, one of the Electric Hydrogen Recombiners becomes inoperable. The remaining electric hydrogen recombination capacity with respect to the design basis accident is:

- A. reduced to 50%
- B. reduced to 75%
- C. remains 100%
- D. reduced to 66.7%

Proposed Answer: C

Explanation:

Technical Reference: TS Bases 3.6.8

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
_____ Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 7
55.43 _____

Comments:

RO/SRO TEST QUESTION #: **87**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>2.1.16</u> | |
| Importance Rating | <u>2.9</u> | <u>2.8</u> |

Proposed Question:

Select the statement that describes why portable radios should not be used in "Radio Free Zones."

- A. Radio transmission interferes with security radios in the event of a security plan implementation.
- B. Radios may distract operator concentration from critical tasks.
- C. Radios are useless in these areas due to signal reception difficulties.
- D. Radios produce electromagnetic interference (EMI) that may cause inadvertent equipment operation.

Proposed Answer: D

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 5417 Modified
New

Question History: Last NRC Exam Salem 1 (WEC), 1/22/1996

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 10
55.43

Comments:

RO/SRO TEST QUESTION #: **88**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>2.1.18</u> | |
| Importance Rating | <u>2.9</u> | <u>3.0</u> |

Proposed Question:

The NRC must be notified in writing within 30 days if a licensed operator is convicted of a felony. Which of the following is responsible for notifying the NRC of the conviction?

- A. The licensed individual.
- B. The Manager, Operations.
- C. The Plant Manager.
- D. Vice President, Nuclear Operations.

Proposed Answer: A

Explanation:

Technical Reference: STA-501

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

ADM.XA7.OB01-2New **Question History:**Last NRC Exam **Cognitive Level:** X

Memory or Fundamental Knowledge

Comprehension or Analysis

10 CFR Part 55 Content:**55.41** 10 **55.43****Comments:**

RO/SRO TEST QUESTION #: **89**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>2.1.24</u> | |
| Importance Rating | <u>2.8</u> | <u>3.1</u> |

Proposed Question:

Given drawing E1-0057 Sheet 16, determine which of the following signals will generate an open signal to Fan 9 Isolation Damper 1-HV-5953.

- A. Energizing the 42 relay.
- B. Energizing the 1-HX-5952 relay.
- C. Energizing the 1-42AX/5952 relay.
- D. Energizing the 74 relay.

Proposed Answer: B

Explanation:

Technical Reference: E1-0057 sheet 16

Proposed references to be provided to applicants during examination:

E1-0057 sheet 16

Learning Objective: _____**Question Source:**

Bank #

CPSES
SYS.HV2.OB07-1

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content:

55.41

7

55.43

Comments:

RO/SRO TEST QUESTION #: 90

Examination Outline Cross-reference:

| | | |
|-------------------|--------------|------------|
| Level | RO | SRO |
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>2.2.3</u> | |
| Importance Rating | <u>3.1</u> | <u>3.3</u> |

Proposed Question:

Identify the unit difference of the Process Sampling System.

- A. Unit 1 sample coolers are supplied by Train A CCW while Unit 2 sample coolers are supplied by Train B CCW.
- B. Unit 2 sampling valves all fail open.
- C. Unit 1 sample hood purge flow is directed to FDT #3.
- D. Spent Fuel Pool demineralizers sample is taken on Unit 1 side.

Proposed Answer: D

Explanation:

Technical Reference: OP51.SYS.PA2.OB21

Proposed references to be provided to applicants during examination:

Learning Objective: _____**Question Source:**

Bank #

CPSES

Modified

SYS.PA2.OB21-1New **Question History:**Last NRC Exam **Cognitive Level:** X

Memory or Fundamental Knowledge

 Comprehension or Analysis**10 CFR Part 55 Content:****55.41** 7 **55.43** 7 **Comments:**

RO/SRO TEST QUESTION #: **91**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

3

3

Group #

2

K/A #

2.2.22

Importance Rating

3.4

4.1

Proposed Question:

During a post trip review, it was noted that the reactor had tripped in response to a high Pressurizer pressure signal at 2360 psig. Which of the following statements is correct? (Assume only the High Pressure setpoint was affected)

- A. The channel must be declared inoperable and related bistables tripped within six hours.
- B. Mode 2 must not be re-entered until the setpoint is adjusted to the proper pressure.
- C. The setpoint does not meet the LCO, but no power restrictions are in effect while the setpoint is being adjusted.
- D. The setpoint meets the LCO requirements and should not affect the status of ability to operate at power.

Proposed Answer: D

Explanation:

Technical Reference: TS 3.3.1

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES
SYS.RC1.OB30 -
040

Modified

New

Question History: Last NRC Exam

Cognitive Level:

X

Memory or Fundamental Knowledge

Comprehension or Analysis

10 CFR Part 55 Content:

55.41

7

55.43

2

Comments:**RO (ONLY) TEST QUESTION #: 92**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

3

3

Group #

2

K/A #

2.2.23

Importance Rating

2.6

3.8

Proposed Question:

A LCOAR which applies to the present plant MODE or plant conditions and requires certain restrictions while the plant is in a degraded condition is called:

- A. a Tracking LCOAR.
- B. an Active LCOAR.
- C. a Degraded Condition LCOAR.
- D. an Outage LCOAR.

Proposed Answer: B

Explanation:

Technical Reference: ODA-308, 4.2 and 4.11

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

ADM.XA5.OB12 -
003

New

Question History: Last NRC Exam

Cognitive Level: X Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10

55.41

10

55.43

2

Comments:**RO (ONLY) TEST QUESTION #: 93**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>2.2.11</u> | |
| Importance Rating | <u>2.5</u> | <u>3.4</u> |

Proposed Question:

WHICH ONE (1) of the following activities is considered a temporary modification?

- A. Sample tubing connected to a sample port.
- B. Installing a pressure gauge on an instrument tap to support performance of an OPT.
- C. A hose connected to a drain valve to route drainage to a floor drain.
- D. Installation of a portable space heater to maintain operability of a safety related valve.

Proposed Answer: D

Explanation:

Technical Reference: STA-602

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 5496 Modified
New

Question History: Last NRC Exam

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 10
55.43 3

Comments:

RO (ONLY) TEST QUESTION #: **94**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|--------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>2.3.2</u> | |
| Importance Rating | <u>2.5</u> | <u>2.9</u> |

Proposed Question:

An uncontrolled radiation release is in progress, which is projected to result in offsite, thyroid dose equivalents significantly in excess of the 10 CFR 100 limits. Manual action is required in order to isolate the release path. Various combinations of personnel could accomplish the task, but only 20 qualified individuals are available to perform the actions in a timely manner.

From the following list, select the number of individuals performing the task that meets both the Protective Action Guides for emergency workers and the ALARA guidelines.

- A. Four individuals each receive a dose equivalent of 30 rems.
- B. Ten individuals each receive a dose equivalent of 15 rems.
- C. Twenty individuals each receive a dose equivalent of 10 rems.
- D. Five individuals each receive a dose equivalent of 20 rems.

Proposed Answer: D

Explanation:

Technical Reference: EPP-305, STA-651

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

MCO.MIB.OB101

 - 001 New **Question History:**Last NRC Exam **Cognitive Level:** Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content:**55.41** 12 **55.43** 4 **Comments:**

RO (ONLY) TEST QUESTION #: **95**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|--------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>2.3.4</u> | |
| Importance Rating | <u>2.5</u> | <u>3.1</u> |

Proposed Question:

A nineteen (19) year old new employee received 360 mrem during the current quarter (2250 mRem for the calendar year) at the Monticello Nuclear Generating Station before being hired here. Which one of the following is the MAXIMUM additional exposure the new employee may receive throughout the remainder of the calendar year without an ADMINISTRATIVE annual dose level extension?

- A. 1750 mRem.
- B. 2750 mRem.
- C. 3640 mRem.
- D. 4640 mRem.

Proposed Answer: A

Explanation:**Technical Reference:** _____

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 2834 Modified
New

Question History: Last NRC Exam

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: 55.41 12
55.43 4

Comments:

RO (ONLY) TEST QUESTION #: 96

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>4</u> | <u>4</u> |
| K/A # | <u>2.4.39</u> | |
| Importance Rating | <u>3.3</u> | <u>3.1</u> |

Proposed Question:

You are a licensed Reactor Operator on dayshift, working on outage tagouts in the Work Control Center. You do not have assigned responsibilities in the Emergency Response Organization (ERO). You hear a Pulse Tone alarm. What emergency does this alarm indicate?

- A. This is the Radiation Hazard alarm.
- B. This is the Fire alarm.
- C. This is the Site Evacuation alarm.
- D. This is the Tornado Warning alarm.

Proposed Answer: C

Explanation:

Technical Reference: CPSES/EP site access general training

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified X
New

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 10
55.43 5

Comments:

RO/SRO TEST QUESTION #: 97

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>4</u> | <u>4</u> |
| K/A # | <u>2.4.46</u> | |
| Importance Rating | <u>3.5</u> | <u>3.6</u> |

Proposed Question:

The plant is in an emergency condition, and you have completed the immediate action steps of EOP-0.0A, "Reactor Trip or Safety Injection". MSIV 1, 3 and 4 Hydraulic Trouble N₂ low pressure and MSIV NOT OPEN alarm windows have just illuminated. It is noted that S/G #2 pressure is approximately 600 psig, and that both the pressure and level in S/G #2 are rapidly decreasing. Pressures in the other S/Gs are approximately 740 psig and are decreasing very slowly. Levels in the other S/Gs are constant.

In response to these S/G conditions, which of the following should you perform?

- A. Increase AFW flow to S/G #2 to stabilize level.
- B. Check secondary radiation levels to determine if a SGTR is indicated.
- C. Open S/Gs #1, #3 and #4 atmospheric relief valves to reduce RCS temperature.
- D. Check that the MSIVs and bypass valves are closed.

Proposed Answer: D

Explanation:

Technical Reference: EOP-0.0A/B

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
EO2.XG4.OB407
- 002

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content:

55.41

10

55.43

5**Comments:**

RO (ONLY) TEST QUESTION #: **98**

Examination Outline Cross-reference:

| | | |
|-------------------|---------------|------------|
| Level | RO | SRO |
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>4</u> | <u>4</u> |
| K/A # | <u>2.4.47</u> | |
| Importance Rating | <u>3.4</u> | <u>3.7</u> |

Proposed Question:

Following a double-ended Steam Generator tube rupture, EOP-3.0B, "Steam Generator Tube Rupture" has been successfully completed through the completion of the RCS cooldown and depressurization, the terminating of ECCS flow and the restoration of normal charging and letdown. The Reactor Operator notes the following conditions:

- Ruptured Steam Generator Level - 60% Narrow Range and Increasing.
- Pressurizer Level - 55% and Increasing.

Which of the following describes the actions which should be taken to establish equilibrium conditions (steady Steam Generator and Pressurizer levels)?

- A. Reduce charging flow, decrease RCS pressure using Pressurizer spray.
- B. Reduce charging flow, increase RCS pressure using Pressurizer heaters.
- C. Increase charging flow, decrease RCS pressure using Pressurizer spray.
- D. Increase charging flow, increase RCS pressure using Pressurizer heaters.

Proposed Answer: A

Explanation:

Technical Reference: EOP-3.0B Step 31

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # CPSES Modified
SK2.XG4.OB103-5
 New _____

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 1
55.43 5

Comments:

RO/SRO TEST QUESTION #: 99

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>4</u> | <u>4</u> |
| K/A # | <u>2.4.25</u> | |
| Importance Rating | <u>2.9</u> | <u>3.4</u> |

Proposed Question:

The following unit conditions exist:

- MODE 1: 100% equilibrium power
- All systems in automatic
- Shift staffing normal
- A fire has occurred in one of the control room panels

The Shift Manager has made and announced the decision to evacuate the control room. Which of the following actions is to be performed prior to exiting the control room in accordance with ABN-803A "Response to a Fire in the Control Room or Cable Spreading Room"?

- A. Push the turbine-driven AFW pump Trip Throttle Valve trip button.
- B. Place the feeder breakers for 1EA2 to Pull-Out.
- C. Place the VCT inlet valve controller for LCV-112A to DIVERT/HUT.
- D. Take the pressurizer spray valves controllers to CLOSE.

Proposed Answer: A

Explanation:

Technical Reference: ABN-803A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.FP1.OB401 -
006

Modified

New

Question History:

Last NRC Exam

Cognitive Level: X

Memory or Fundamental Knowledge

 Comprehension or Analysis

10 CFR Part 55 Content:**55.41** 10 **55.43** 5 **Comments:**

RO (ONLY) TEST QUESTION #: **100**

Examination Outline Cross-reference:

| | | |
|-------------------|-----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.1.074.EA1.24</u> | |
| Importance Rating | <u>3.6</u> | <u>3.8</u> |

Proposed Question:

The plant is responding to an inadequate core cooling condition with core exit thermocouples greater than 1200°F. From the choices below, select the choice that lists the best recovery technique in the correct priority for this condition.

- A. Start ECCS, depressurize secondary, start RCP, depressurize RCS.
- B. Start RCP, depressurize RCS, depressurize secondary, start ECCS.
- C. Trip RCPs, trip turbine, depressurize secondary, isolate accumulators.
- D. Start ECCS, depressurize RCS, trip RCPs, depressurize secondary.

Proposed Answer: A

Explanation:

Technical Reference: FRC-0.1A

Proposed references to be provided to applicants during examination:

Learning Objective:**Question Source:**

Bank #

CPSES
MCO.MI3.OB105-
005

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content:**55.41** 10**55.43** 5**Comments:**

RO/SRO TEST QUESTION #: 1

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

1

1

Group #

K/A #

4.1.038.EA1.37

Importance Rating

3.5

3.4

Proposed Question:

An operator could cause a Steam Generator Tube Rupture to become a Pressurized Thermal Shock concern by:

- A. not terminating the required cooldown in a timely manner.
- B. isolating the ruptured steam generator too soon.
- C. terminating safety injection before the criteria is met.
- D. not depressurizing the RCS before the initial cooldown.

Proposed Answer: A

Explanation:

Technical Reference: EOP-3.0A

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

SK2.XG4.OB103 -
001

New

Question History: Last NRC Exam

Cognitive Level: X

Memory or Fundamental Knowledge
Comprehension or Analysis

| | | |
|--------------------------------|--------------|-------------|
| 10 CFR Part 55 Content: | 55.41 | 3 |
| | 55.43 | 2, 5 |

Comments:

SRO (ONLY) TEST QUESTION #: 2

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.005.AA1.05</u> | |
| Importance Rating | <u>3.4</u> | <u>3.4</u> |

Proposed Question:

During a Reactor startup with Control Bank D at 20 steps and the Reactor subcritical, the DRPI ROD DEV annunciator is received. The Reactor Operator observes that Control Bank B rod F2 indicates 210 steps while Control Bank B Group 1 step counter indicates 228 steps. No other alarms are received and all other parameters indicate normal. This event would require the crew to:

- A. Consider the rod misaligned and within one hour insert all Control Banks to Control Bank Offset (CBO).
- B. Consider the rod misaligned and continue rod withdrawal to reach Critical conditions then realign the rod.
- C. Consider the rod misaligned and compare DRPI and Step Counter positions at least once per 12 hours.
- D. Consider the rod misaligned and implement the requirements of Technical Specifications 3.0.3.

Proposed Answer: A

Explanation:

Technical Reference: ABN-712

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.CR1.OB15- 4

Modified

New _____

Question History:

Last NRC Exam _____

Cognitive Level:

_____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:

55.41 10
55.43 5

Comments:

RO/SRO TEST QUESTION #: 3

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.067.AA1.05</u> | |
| Importance Rating | <u>3.0</u> | <u>3.1</u> |

Proposed Question:

The Control Room Ventilation System has been aligned for Control Room Isolation Mode due to a large fire in a field adjacent the plant. The Unit Supervisor checks the logs and realizes that the ventilation system has been in Isolation Mode for approximately 24 hours. Which of the following statements describes the situation in the Control Room?

- A. The humidity in the Control Room has dropped dangerously low.
- B. The carbon monoxide level in the Control Room is increasing.
- C. The air quality in the Control Room has been polluted by contaminants from the fire.
- D. The carbon dioxide level in the Control room is increasing.

Proposed Answer: D

Explanation:

Technical Reference: SOP-802 "Control Room Ventilation System"

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified X
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 7
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 4

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.068.AA1.14</u> | |
| Importance Rating | <u>4.2</u> | <u>4.4</u> |

Proposed Question:

A fire in the control room with heavy smoke requires immediate evacuation of the control room. Unit 1 was at 95% power at the time the evacuation procedure was initiated. The Unit 1 Reactor Operator was only able to trip the turbine prior to exiting the control room. Assuming that the plant responds as expected, which ONE of the following local actions needs to be taken to complete the RO's initial evacuation assignments?

- A. Open the Reactor Trip Breakers.
- B. Isolate the Main Steam lines.
- C. Remove pressurizer PORV fuses.
- D. Isolate dilution paths and S/G Process Sampling.

Proposed Answer: B

Explanation:

Technical Reference: ABN-803A

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source: Bank # INPO 2703 Modified X
New

Question History: Last NRC Exam Prairie Island 1(WEC), 6/16/1997

Cognitive Level: Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 7, 8, 10
55.43 5

Comments:

Modifications: clarified stem, and adapted distracters to CPSES, and replaced one distracter.

RO/SRO TEST QUESTION #: 5

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.068.AA2.10</u> | |
| Importance Rating | <u>4.2</u> | <u>4.4</u> |

Proposed Question:

A bomb threat has forced a control room evacuation. Prior to the bomb threat, the plant was operating steady at 100%. The relevant control room actions directed by ABN-905A "Loss of Control Room Habitability" were completed and plant operations have been transferred to the Remote Shutdown Panel (RSP). When the Reactor Operator arrives at the RSP, he should expect to see the following indications:

- A. Neutron flux decreasing steadily and rod bottom lights on.
- B. Neutron flux and rods at approximately the level they were when he left the control room.
- C. Neutron flux decreasing steadily and the reactor trip breakers are open.
- D. Neutron flux at approximately the level it was before he left the control room and reactor trip breakers closed.

Proposed Answer: C

Explanation:

ABN-905A directs a reactor trip prior to leaving the control room, and rod bottom lights are not indicated at the RSP. The RO can observe both neutron flux decreasing, and reactor trip breakers open from the RSP.

Technical Reference: ABN-905A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: _____ **Bank #** _____ **Modified** _____
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 1, 6, 10
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 6

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.076.AA2.03</u> | |
| Importance Rating | <u>2.5</u> | <u>3.0</u> |

Proposed Question:

On Monday, the daily RCS chemistry sample on Unit 2 determined the RCS specific activity to be 0.02 uc/mg Dose Equivalent I-131. On Tuesday, During a planned shutdown, Unit 2 experienced a 35% load rejection from 50% power. Tuesday's daily RCS chemistry sample determined the RCS specific activity to be 0.13 uc/mg Dose Equivalent I-131. Which one of the below statements identifies the required response?

- A. Be in mode 3 condition with Tave less than 500 degrees F within 6 hours.
- B. Initiate a Safety Injection and enter EOP-0.0A.
- C. Obtain and analyze a plant vent grab sample.
- D. Continue with plant operations as planned, there is no required response to the stated conditions.

Proposed Answer: C

Explanation:

Technical Reference: IPO-003A

Proposed references to be provided to applicants during examination:

Learning Objective: _____**Question Source:**

Bank #

CPSES

Modified

IPO.XO4.OB900- 002XNew **Question History:**

Last NRC Exam _____

Cognitive Level:

Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content:**55.41**10**55.43**5**Comments:**

Modifications: altered stem IC's and two distractors.

RO/SRO TEST QUESTION #: 7

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.076.AA2.04</u> | |
| Importance Rating | <u>2.6</u> | <u>3.0</u> |

Proposed Question:

The Liquid Waste Processing Effluent Radiation Monitor High Radiation alarm has been received. Which of the following is the correct action for the operator to take initially?

- A. Ensure X-RV-5251 (ABP-074) is closed or close its upstream isolation valve.
- B. Reopen X-RV-5251 (ABP-074) and ensure correct pump is running.
- C. Reopen X-RV-5253 (LWE-076) and ensure correct pump is running.
- D. Ensure X-RV-5253 (LWE-076) is closed or close its upstream isolation valve.

Proposed Answer: D

Explanation:

Technical Reference: ALM-3200, ABN-903

Proposed references to be provided to applicants during examination:

Learning Objective: _____**Question Source:**

Bank #

CPSES
SYS.WP1.OB12 -
003

Modified

New **Question History:**

Last NRC Exam _____

Cognitive Level:

 Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content:**55.41** 10**55.43** 5**Comments:**

RO/SRO TEST QUESTION #: 8

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|------------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.027.G.2.4.2</u> | |
| Importance Rating | <u>3.9</u> | <u>4.1</u> |

Proposed Question:

Which group of plant symptoms represents a likely plant response to Pressurizer Level Channel 459 failing high (Ch-459 is the controlling channel) - assuming no operator action (the plant is at 100% power and all systems are in automatic):

- A. Charging flow decreases, PZR Level decreases, and RX Trips on low pressure
- B. Charging flow increases, PZR Level increases, and RX Trips on high PZR Level
- C. Charging flow decreases, letdown isolates, and RX trips on high PZR Level
- D. Charging flow increases, letdown isolates, and RX trips on low pressure

Proposed Answer: C

Explanation:

Technical Reference: LO21.RLS.IC3.LN

Proposed references to be provided to applicants during examination:

Learning Objective:**Question Source:**

Bank #

CPSES
MCO.TA3.OB103
- 002

Modified

X
New

Question History:

Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:55.41 755.43 **Comments:**

Modifications: Reversed question and changed all distracters.

RO/SRO TEST QUESTION #: 9

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.1.055.EK1.02</u> | |
| Importance Rating | <u>4.1</u> | <u>4.4</u> |

Proposed Question:

According to EOS-0.1A "Reactor Trip Response," which of the following is an indication of natural circulation:

- A. Steam generator pressures increasing
- B. Pressurizer pressure is stable or decreasing
- C. Core exit thermocouple temperatures increasing
- D. RCS cold leg temperatures at saturation temperature for S/G pressure

Proposed Answer: D

Explanation:

Technical Reference: EOS-0.1A Attachment 3

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 10526 Modified X
New

Question History: Last NRC Exam Indian Point 3 (WEC), 4/15/1996

Cognitive Level: Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 8, 10
55.43

Comments:

Modifications: adapted to CPSES terminology, reversed question, and replaced one distracter.

RO/SRO TEST QUESTION #: 10

Examination Outline Cross-reference:

| | | |
|-------------------|-----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.067.AK1.01</u> | |
| Importance Rating | <u>2.9</u> | <u>3.9</u> |

Proposed Question:

While you are on shift on Saturday night, an equipment operator calls the control room and informs you that he has found a fire smoldering in an electrical panel. If available, the preferred method for fighting this type of fire is:

- A. halon.
- B. foam.
- C. water fog/spray.
- D. dry powder extinguisher.

Proposed Answer: A

Explanation:

Technical Reference: STA-724 "Fire Reporting and Response"

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 5378 Modified
New

Question History: Last NRC Exam Salem 1(WEC), 1/22/1996

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 8, 10
55.43

Comments:

RO/SRO TEST QUESTION #: 11

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>4.2.028.AA2.01</u> | |
| Importance Rating | <u>3.4</u> | <u>3.6</u> |

Proposed Question:

WHICH ONE (1) of the following conditions would result in an decrease in actual pressurizer level?

- A. The reference leg cools down due to a decrease in containment temperature.
- B. Pressurizer liquid temperature increases.
- C. A leak in the reference leg of the controlling pressurizer level transmitter.
- D. Containment pressure increases to 0.3 psig; containment temperature remains constant.

Proposed Answer: C

Explanation:

Technical Reference: LO21.GFE.FF1.LN

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

 SYS.PP1.OB08-28 New

Question History:

Last NRC Exam

Cognitive Level:

 X

Memory or Fundamental Knowledge

 Comprehension or Analysis

10 CFR Part 55 Content:

 55.41 55.43 5

Comments:

RO/SRO TEST QUESTION #: 12

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

1

1

Group #

1

1

K/A #

4.5.E09.EK1.02

Importance Rating

3.3

3.7

Proposed Question:

Which of the following combinations of circumstances would generate the highest Natural Circulation flowrate?

- A. Following a RX trip from 100% power, all RCPs run until the plant is in mode 4, then stop.
- B. Following a RX trip from 50% power, all RCPs run until the plant is in mode 4, then stop.
- C. Following a RX trip from 100% power, all RCPs stop at the same time the reactor trips.
- D. Following a RX trip from 50% power, all RCPs stop at the same time the reactor trips.

Proposed Answer: C

Explanation:

Technical Reference:

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

SJ2.XG7.OB104 -

002

X

New

Question History: Last NRC Exam

Cognitive Level:

Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content:

55.41

8, 10

55.43

Comments:

Modifications: stem and all distracters altered.

RO/SRO TEST QUESTION #: 13

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.068.AK2.03</u> | |
| Importance Rating | <u>2.9</u> | <u>3.1</u> |

Proposed Question:

(TS 3.3.4 provided as reference for this question) Unit 2 is currently in mode 4, but a transition into mode 3 is planned for later today. During conduct of the "Pressurizer Pressure Control Remote Shutdown Operability Test," it is discovered that the PRZR HTR BACKUP GROUP A CTRL XFER (STP) switch fails to properly transfer control of the heaters to the HSP. Regarding the planned transition to mode 3,

- A. Technical Specifications require that the plant remain in mode 4 until the transfer switch is restored to operability.
- B. Technical Specifications allow the plant to proceed into mode 3 while repairs are made to the transfer switch.
- C. Technical Specifications do not address this transfer switch, so the mode change is unaffected by its failure.
- D. Technical Specifications require that the plant be placed in mode 5 until the transfer switch is restored to operability.

Proposed Answer: B

Explanation:

TS allows mode increase while in LCO related to Remote Shutdown Transfer switches.

Technical Reference: OPT-216A "Remote Shutdown Operability Test", TS 3.3.4

Proposed references to be provided to applicants during examination:

TS 3.3.4

Learning Objective:

Question Source: Bank # _____ Modified
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: 55.41
55.43 2

Comments:

SRO (ONLY) TEST QUESTION #: 14

Examination Outline Cross-reference:

| | | |
|-------------------|-----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.051.AK3.01</u> | |
| Importance Rating | <u>2.8</u> | <u>3.1</u> |

Proposed Question:

Given the following Unit 1 plant conditions:

- o Unit was initially at 100% power and has been manually tripped.
- o Tave is 554°F on all channels.
- o "A" Condenser vacuum is 14" vacuum
- o "B" Condenser vacuum is 18" vacuum
- o two Circ water pumps are running

Which ONE of the following describes the capability to dump steam?

- A. Only the ARV's are available.
- B. Steam dump capability is NOT available.
- C. Only the condenser Steam Dumps are available.
- D. Both ARV's and condenser Steam Dumps are available.

Proposed Answer: D

Explanation:

With 12.3 inches Hg (12.0 inches Hg on Unit 2) OR ≤ 2 CW Pump breakers racked in, C-9 signal is removed and the arming solenoid valve is prevented from energizing; operator is left with the SG Atmospheric Relief Valves to control RCS temperature or SG pressure

Technical Reference: LO21.SYS.SD1 Lesson Plan; DBD-ME-202, "Main Steam System"

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: _____ **Bank #** INPO 2694 **Modified** _____
New _____

Question History: Last NRC Exam Prairie Island 1 (WEC) 6/16/1997

Cognitive Level: _____ Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 5, 10
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 15

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

1

1

Group #

2

1

K/A #

4.1.029.EA1.03

Importance Rating

3.5

3.2

Proposed Question:

Given the following plant conditions:

- The unit was at 100% power
- A condition requiring a trip was diagnosed
- The operators are using FRS-0.1A, "Response to Nuclear Power Generation/ATWT", to respond to an ATWT
- The Turbine is tripped
- Emergency Boration valve 1/1-8104 has failed to open

Which ONE of the following describes the actions that the operator is required to perform?

- Open RWST supply to CCP's 1/1 LCV-112D and 1/1 LCV-112E, and shut VCT supply to CCP's 1/1 LCV-112B and 1/1 LCV-112C.
- Open VCT supply to CCP's 1/1 LCV-112B and 1/1 LCV-112C, and shut RWST supply to CCP's 1/1 LCV-112D and 1/1 LCV-112E.
- Open RWST supply to CCP's 1/1 LCV-112D, and shut VCT supply to CCP's 1/1 LCV-112B.
- Open VCT supply to CCP's 1/1 LCV-112B, and shut RWST supply to CCP's 1/1 LCV-112D.

Proposed Answer: A

Explanation:

Technical Reference: FRS-0.1A

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

| | | |
|-------------------------|-------|---|
| 10 CFR Part 55 Content: | 55.41 | 7 |
| | 55.43 | |

Comments:

RO/SRO TEST QUESTION #: 17

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

1

1

Group #

2

1

K/A #

4.5.E02.EA1.01

Importance Rating

4.0

3.9

Proposed Question:

Unit 1 and Unit 2 have experienced a Reactor trip and a loss of offsite power. Unit 2 systems and equipment functioned as required. The following complications were experienced on Unit 1:

-The Train B Diesel Generator was tagged out for maintenance and Train A Diesel Generator started and supplied the 6.9 safeguards bus as required. An inadvertent Safety Injection has occurred. Train A CCP tripped on restart.

-During the response actions of EOS-1.1A, "Safety Injection Termination", the Unit Supervisor identifies a caution that states "If RCP seal cooling had previously been lost, the affected RCP(s) should not be started prior to a status evaluation".

Which of the following is the appropriate recovery actions of EOS-1.1A for the conditions as described in this event?

- A. RCP seal injection valves are isolated. The PD pump is loaded on the Train A electrical bus to provide normal charging. Following restoration of non-safeguards power, RCPs are not started prior to an engineering evaluation.
- B. RCP seal injection valves are isolated. The PD pump is loaded on the Train A electrical bus to provide normal charging. Following restoration of non-safeguards power, RCP can be started in accordance with RCP operating instructions without an engineering evaluation.
- C. The PD pump is manually loaded on the Train A electrical bus to provide normal charging and seal injection. Following restoration of non-safeguards power, RCP can be started in accordance with RCP operating instructions without an engineering evaluation.
- D. The PD pump is manually loaded on the Train A electrical bus to provide normal charging and seal injection. Following restoration of non-safeguards power, RCPs are not started prior to an engineering evaluation.

Proposed Answer: C

Technical Reference: EOS-1.1A, STEP 26 CAUTION, EOP-0.0A, ATT. 9

Question Source:

Bank #

CPSES

Modified

SJ1.XG9.OB107-

1

New

Question History:

Last NRC Exam

Cognitive Level:

Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content:

55.41

7, 10

55.43

5

Comments:

RO/SRO TEST QUESTION #: 18

Examination Outline Cross-reference:

| | | |
|-------------------|-----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>1</u> |
| K/A # | <u>4.5.E02.EA2.01</u> | |
| Importance Rating | <u>3.3</u> | <u>4.2</u> |

Proposed Question:

Given the following:

- o A Turbine/Generator trip has caused a Reactor trip.
- o The operators are in EOS-0.1A, "Reactor Trip Response," at step 1, "Check RCS Average Temperature - Stable at or Trending to 557 F."
- o RCS pressure is 1822 psig.
- o Pressurizer level is 22% and stable.
- o Core exit T/Cs are 610 F and slowly rising.
- o Containment pressure is 1.5 psig.
- o All S/G NR levels are 20% and slowly rising.

Which of the following actions should be taken?

- A. Transition to FRZ-0.1A, "Response to High Containment Pressure."
- B. Dump steam to the Condenser and proceed to step 2 of EOS-0.1A.
- C. Transition to FRH-0.1A, "Response to Loss of Secondary Heat Sink."
- D. Initiate SI and go to EOP-0.0A, "Reactor trip or Safety Injection," step 1.

Proposed Answer: D

Explanation:

The "fold-out" for EOS-0.1A requires initiation of SI at less than 25 degrees subcooling; with the RCS at 1822 psig and 610 degrees, that criteria is just satisfied.

Technical Reference: EOS-0.1A and Steam Tables

Proposed references to be provided to applicants during examination:

Steam Tables

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: 55.41 _____
55.43 5 _____

Comments:

SRO (ONLY) TEST QUESTION #: 19

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.1.009.EA2.01</u> | |
| Importance Rating | <u>4.2</u> | <u>4.8</u> |

Proposed Question:

The plant is recovering from a loss of coolant accident in accordance with EOP-1.0A "Loss of Reactor or Secondary Coolant" with current conditions as follows:

- SI Pump Status: Both On
- RCP Status: All On
- RCS Pressure: 1249 psig and Stable
- Highest T-hot: 552 degrees F and Stable
- Highest CET: 560 degrees F and Stable
- Pressurizer Level: 34% and Increasing
- S/G Narrow Range Level: All at ~12% and Stable
- Total AFW Flow: 100 gpm
- Containment Pressure: 5 psig

Which ONE of the following actions should be taken?

- A. Stop all running RCPs
- B. Transition to FRZ-0.1A "Response to High Containment Pressure"
- C. Increase Total AFW flow to > 200 gpm
- D. Transition to EOS-1.1A "SI Termination"

Proposed Answer: A

Explanation:

Technical Reference: EOP-1.0A "Loss of Reactor or Secondary Coolant"

Proposed references to be provided to applicants during examination:

Steam Tables

Learning Objective: _____

Question Source: Bank # INPO 10764 Modified X
New _____

Question History: Last NRC Exam Kewaunee 1 (WEC), 12/18/1997

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 10
55.43 5

Comments:

Modifications: Modified Stem to change correct answer, and replaced one distracter.

RO/SRO TEST QUESTION #: 20

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.2.061.AA2.03</u> | |
| Importance Rating | <u>3.0</u> | <u>3.3</u> |

Proposed Question:

If Containment Air PIG is alarming at the gaseous activity ALERT setpoint, the operators in the Control Room would expect to have the following indication:

- A. Yellow LED on the corresponding PC-11
- B. Yellow LED on the corresponding RM-23
- C. Red LED on the corresponding PC-11
- D. Red LED on the corresponding RM-23

Proposed Answer: B

Explanation:

Yellow LED on RM-23 is indication of ALERT ALARM level; 5.95E-5 is below HIGH ALARM (Red) level, and there are no LED's on the PC-11

Technical Reference: OP51.SYS.RM1 Table 1, and OP51.SYS.RM1

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
_____ Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 11
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 21

Examination Outline Cross-reference:

| | | |
|-------------------|------------------------|------------|
| Level | RO | SRO |
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.1.038.3EA2.11</u> | |
| Importance Rating | <u>3.7</u> | <u>3.9</u> |

Proposed Question:

During the diagnostic steps of EOP-0.0 following a manual Reactor trip and SI due to a slowly decreasing Pressurizer level, the BOP notices that the Main Steam Line Radiation Monitor for one of the Steam Generators had been in alarm, but is now reading only slightly above normal on the PC-11 trends. Which statement below is correct?

- A. The trend is correct because when the Reactor and Turbine were tripped, the steam flow through the detector decreased resulting in the lower reading.
- B. The trend is correct because while the Reactor was critical, N-16 was being produced and entering the SG through a leak. The N-16 has now decayed away resulting in a lower reading.
- C. The trend is correct because the Main Steam Line Radiation Monitors are isolated on the SI signal resulting in the decreased reading.
- D. The trend is incorrect because if the radiation monitor was in alarm, the trend should continue to increase as the Krypton and Xenon reach a new higher equilibrium value until the leak is stopped.

Proposed Answer: B

Explanation:

Technical Reference: SOER 93-1, PALO VERDE SGTR

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # CPSES Modified
SYS.RM1.OB13-6
 New _____

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 11
55.43 5

Comments:

RO/SRO TEST QUESTION #: 22

Examination Outline Cross-reference:

| | | |
|-------------------|-------------------------|------------|
| Level | RO | SRO |
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.1.011.G.2.4.18</u> | |
| Importance Rating | <u>2.7</u> | <u>3.6</u> |

Proposed Question:

A Large Break Loss of Coolant Accident (LBLOCA) has occurred and all RCS hot leg temperatures indicate 385°F. Why should the SI Accumulators Injection Valves be closed at this time?

- A. Ensures that the RCS saturation pressure for 385°F does NOT exceed the SI Accumulator pressure after the accumulator water has been discharged.
- B. Prevents overpressurization of Containment, which could occur if the nitrogen in the Accumulators was allowed to enter the RCS and exit via the break.
- C. Ensures adequate volume of borated water and nitrogen have been injected to recover the Core with liquid and inert the hydrogen gas contained within the RCS and Containment.
- D. Prevents further nitrogen injection into the RCS which could impede further RCS depressurization.

Proposed Answer: D

Explanation:

Technical Reference: EOP-1.0A STEP 14 BASIS

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

SYS.SI1.OB16-2

New

Question History:

Last NRC Exam

Cognitive Level:X

Memory or Fundamental Knowledge

Comprehension or Analysis**10 CFR Part 55 Content:****55.41** 10**55.43** _____**Comments:**

RO/SRO TEST QUESTION #: 23

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>1</u> |
| K/A # | <u>4.5.E02.EK1.02</u> | |
| Importance Rating | <u>3.4</u> | <u>3.9</u> |

Proposed Question:

Following a LOCA, if the SI accumulators cannot be isolated, the correct action is to:

- A. continue with the following steps, since isolation is not required.
- B. drain the SI accumulators.
- C. sample the pressurizer steam space for noncondensibles.
- D. vent the SI accumulators.

Proposed Answer: D

Explanation:

Technical Reference: EOP-1.0A, STEP 15 BASIS

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

ERG.XDD.OB103-

 1 New

Question History:

Last NRC Exam

Cognitive Level:

 X

Memory or Fundamental Knowledge

 Comprehension or Analysis

10 CFR Part 55 Content:

55.41 8, 10 **55.43**

Comments:

RO/SRO TEST QUESTION #: 24

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>1</u> |
| K/A # | <u>4.5.E04.EK1.01</u> | |
| Importance Rating | <u>3.5</u> | <u>3.9</u> |

Proposed Question:

In the event of a LOCA outside containment, performing ECA-1.2A, "LOCA Outside Containment" would NOT isolate the leak if it were through which path below?

- A. CCW piping arrangement
- B. RHR low pressure piping arrangement
- C. RHR piping and injection lines to the RCS
- D. SI piping and injection lines to the RCS

Proposed Answer: A

Explanation:

Technical Reference: ECA-1.2A

Proposed references to be provided to applicants during examination:

Learning Objective:**Question Source:**

Bank #

CPSES

Modified

SM1.XGH.OB102-1X

New

Question History:Last NRC Exam**Cognitive Level:**XMemory or Fundamental KnowledgeComprehension or Analysis**10 CFR Part 55 Content:**55.41 8, 1055.43**Comments:**

Modification: altered stem and one distracter.

RO/SRO TEST QUESTION #: 25

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>1</u> |
| K/A # | <u>4.5.E01.EK2.01</u> | |
| Importance Rating | <u>3.3</u> | <u>3.5</u> |

Proposed Question:

Operators have correctly entered EOS-0.0A, "Rediagnosis" from EOP-0.0A "Reactor Trip or Safety Injection" and observe the following plant parameters:

- containment pressure is 15 psig
- RCS pressure is 1895 psig
- Hot Leg Temperature is 572 degrees F
- CST level is 9%
- CCP-1 is running
- All SG pressures are steady
- SG NR levels are 16%, 22%, 4%, and 17%

Based on these indications, EOS-0.0A, "Rediagnosis" directs the operators to:

- A. Transition to EOP-2.0A, "Faulted SG Isolation"
- B. Trip all RCP's
- C. Switch to alternate AFW supply per ABN-305 "AFW System Malfunction"
- D. Initiate Safety Injection

Proposed Answer: C

Explanation:

Foldout requires action due to CST level <10%; none of the other actions are prescribed by EOS-0.0A for the given indications.

Technical Reference: EOS-0.0A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 7, 10
55.43 5

Comments:

RO/SRO TEST QUESTION #: 26

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>1</u> |
| K/A # | <u>4.5.E01.EK2.02</u> | |
| Importance Rating | <u>3.5</u> | <u>3.8</u> |

Proposed Question:

Unit 2 is operating in EOP-0.0B, REACTOR TRIP OR SAFETY INJECTION. The Reactor is tripped and safety injection has actuated. The following plant indications and responses are observed;

- Containment pressure is 8 psig and rising.
- RCS subcooling is 57°F.
- Both CCPs and SIPs are running.
- Both CCWPs are running.
- Pressurizer level is 13%.
- Pressurizer pressure is 1815 psig.
- Two banks of steam dumps are open.
- Tave is 563°F and rising.
- SG NR levels are at ~45%.

Based on the above information, from the list below SELECT the required action.

- A. Increase auxiliary feedwater flow to the steam generators.
- B. Take manual control of steam dumps and increase demand.
- C. Take manual control of SG ARVs and throttle to control temperature.
- D. Allow SG ARVs to automatically control temperature.

Proposed Answer: C

Technical Reference: EOP-0.0B

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
EO0.XG2.OB402-
2

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7, 10

55.43 5

Comments:

RO/SRO TEST QUESTION #: 27

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

1

1

Group #

1

K/A #

4.2.001.AK2.05

Importance Rating

2.9

3.1

Proposed Question:

Unit 1 is steady with reactor power at 90%. All systems are operating normally with the rod control system in automatic. Without warning, the rod motion lights indicate rods begin to step and T_{avg} begins to increase above T_{ref} , which remains constant. Pressurizer pressure and level also begin to increase.

These symptoms are consistent with which of the following?

- A. PRZR pressure control system failure
- B. Main turbine/generator load increase
- C. Continuous rod insertion
- D. Continuous rod withdrawal

Proposed Answer: D

Explanation:

Technical Reference: ABN-712A

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

SYS.CR1.OB09-1

New

Question History: Last NRC Exam

Cognitive Level:

Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content:

55.41

7

55.43

Comments:

RO/SRO TEST QUESTION #: 28

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.5.E05.EK3.01</u> | |
| Importance Rating | <u>3.4</u> | <u>3.8</u> |

Proposed Question:

What adverse consequence could result from delaying feed and bleed cooling if the conditions are met in FRH-0.1B "Response to Loss of Secondary Heat Sink"?

- A. Inability to provide sufficient injection for core cooling due to high RCS pressure.
- B. High temperature induced failure of U-tube bends
- C. RCP seal failure
- D. Inability to recover the SGs without damage from high thermal stresses.

Proposed Answer: A

Explanation:

Technical Reference: FRH-0.1B

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 8340 Modified
New

Question History: Last NRC Exam Ginna 1 (WEC), 5/8/1996

Cognitive Level: Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 5, 10
55.43

Comments:

RO/SRO TEST QUESTION #: **29**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.5.E16.EK3.01</u> | |
| Importance Rating | <u>2.9</u> | <u>3.1</u> |

Proposed Question:

Unit 2 is operating at 100% power. Over twelve hours the following plant indications and responses were observed in the control room;

- Containment humidity increased slightly
- Containment radiation increased slightly
- Containment dew point increased slightly
- Containment sump pumps have operated 1 time every hour.
- Automatic makeup to the VCT occurred 7 times.
- Letdown was maintained at 70 gpm and charging went from 82 gpm to 78 gpm.
- Indicated Pressurizer level has remained at 60%.
- Pressurizer pressure has trended from 2235 psig to 2220 psig and stabilized.
- No other abnormal alarms are annunciated.

Based on the above indications the operating crew entered ABN-103 and the following actions were taken;

- Radiation Protection was contacted to investigate containment radiation.
- Preparations are in progress to make a containment entry.
- Radiation Protection and Radwaste were notified that containment sumps would be left in operation to the WHT.
- Letdown and charging have been isolated and then realigned for normal operation.
- OPT-303 has been performed and unidentified leakage is 6 gpm.
- Preparations are being made to commence a reactor shutdown.

Based on the above information, SELECT from the list below the source of the unidentified leakage.

- A. Reactor Coolant System cold leg leak.
- B. Reactor Coolant System hot leg leak.
- C. Pressurizer vapor space leak.
- D. Reactor Vessel flange leak.

Proposed Answer: C

Technical Reference: ABN-103A

Question Source:

Bank #

CPSES
SYS.RC1.OB14
010

Modified

New

Cognitive Level:

 Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:

55.41 5, 10

55.43

Comments:

RO/SRO TEST QUESTION #: 30

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>1</u> |
| K/A # | <u>4.5.E01.EK3.02</u> | |
| Importance Rating | <u>3.0</u> | <u>3.9</u> |

Proposed Question:

From the selection below regarding the Emergency Response Guidelines (ERG) usage rules, which of the below correctly states the intended purpose for EOS-0.0A, "Rediagnosis" ?

- A. To provide a means for determining the procedural transition when exiting Functional Restoration (FR) series ERG procedures.
- B. To provide a mechanism for the operator to determine or confirm the most appropriate post accident recovery procedure.
- C. To determine the appropriate recovery procedure after recovering station electrical power while performing ECA-0.0A for loss of all A.C. power.
- D. To provide a mechanism for the operator to determine whether an SI is required and transition to the appropriate procedure.

Proposed Answer: B

Explanation:

Technical Reference: EOS-0.0A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SJ1.XG5.OB101 -
001

Modified

New _____

Question History: Last NRC Exam _____

Cognitive Level:

X Memory or Fundamental Knowledge
____ Comprehension or Analysis

10 CFR Part 55 Content:

55.41 5, 10
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 31

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.2.008.AK3.03</u> | |
| Importance Rating | <u>4.1</u> | <u>4.6</u> |

Proposed Question:

EOP-1.0A, "Loss of Reactor or Secondary Coolant," Step 1; "Check if RCPs should be stopped," is a continuous action step. Which ONE of the following is the basis for continuously monitoring for the criteria to perform this step in response to a LOCA?

- A. Minimize cooldown rate
- B. Prevent excessive RCS inventory loss
- C. Prevent RCP damage from cavitation
- D. Minimize RCP run time with less than the required subcooling

Proposed Answer: B

Explanation:**Technical Reference:** _____

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 10769 Modified
New

Question History: Last NRC Exam Kewaunee 1 (WEC), 12/18/1997

Cognitive Level: Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 5, 10
55.43

Comments:

RO/SRO TEST QUESTION #: 32

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.5.E03.EK3.04</u> | |
| Importance Rating | <u>3.5</u> | <u>3.9</u> |

Proposed Question:

Unit 1 Pressurizer level is 89% and the RVLIS 49" above flange lights are dark and the plant computer indicates an INVENTORY yellow condition. The unit has experienced a small break LOCA and plant response is being directed by EOS-1.2A, POST-LOCA COOLDOWN AND DEPRESSURIZATION. ECCS flow has not been terminated. The Unit Supervisor has currently decided not to implement the yellow condition guideline. From the list below SELECT why this is or is not an acceptable decision.

- A. Transition has been made from EOP-0.0A, the yellow condition guideline should be implemented when EOS-1.2A is completed.
- B. There exist other, more critical plant conditions that should be addressed before implementation of the yellow condition guideline.
- C. Voids are not a concern when responding to a small break LOCA.
- D. The yellow condition guideline must be implemented immediately due to plant conditions.

Proposed Answer: B

Explanation:

Technical Reference: FRI-0.3A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
FRI.XH6.OB401
005

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:55.41 5, 1055.43 5**Comments:**

RO/SRO TEST QUESTION #: 33

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>3</u> | <u>2</u> |
| K/A # | <u>4.2.065.AA1.05</u> | |
| Importance Rating | <u>3.3</u> | <u>3.3</u> |

Proposed Question:

Unit 1 is in MODE 2 with a startup in progress when instrument air header pressure begins decreasing. Attempts to restart and align an instrument air compressor to Unit 1 are unsuccessful and instrument air header pressure reaches 30 psig. The RO opens the Reactor Trip Breakers and the crew enters EOP-0.0. Select the FIRST corrective action to be taken in response to this loss of Instrument air.

Dispatch a PEO to.....

- A. close the MSIVs.
- B. control charging flow.
- C. close the S/G ARVs.
- D. control AFW flow.

Proposed Answer: B

Explanation:

Technical Reference: ABN-301A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.IA1.OB14-
005

Modified

New

Question History: Last NRC Exam

Cognitive Level:

 X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7
55.43

Comments:

RO/SRO TEST QUESTION #: **34**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>4.2.028.AA1.07</u> | |
| Importance Rating | <u>3.3</u> | <u>3.3</u> |

Proposed Question:

The reactor is critical at 1.0E-8 Amps when charging pump suction inadvertently switches from the VCT to the RWST. This occurs for approximately 10 minutes, then is stopped by the operators. Which one of the following describes the comparative effect that this will have on letdown flow?

- A. It will decrease the most at EOL.
- B. It will decrease the most at BOL.
- C. It will not be significantly affected.
- D. It will increase the most at BOL.

Proposed Answer: C

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination: _____

Learning Objective: _____

Question Source: Bank # INPO 194 Modified
New

Question History: Last NRC Exam Arkansas Nuclear 2 (CE), 8/28/1998

Cognitive Level: Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7
55.43

Comments:

RO/SRO TEST QUESTION #: 35

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>4.2.056.AA2.02</u> | |
| Importance Rating | <u>3.5</u> | <u>3.6</u> |

Proposed Question:

The plant is recovering from a loss of off-site power. Select the choice below which can be used as an indication that the Blackout Sequencer Operator Lockouts have reset (no longer present).

- A. OL light on the associated sequencer is lit.
- B. All step lights are lit on both sequencers.
- C. Start of RMUW pump on associated train.
- D. TD AFW pump steam supply valve opens.

Proposed Answer: C

Explanation:

Technical Reference: ABN-602A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # CPSES Modified _____
SYS.ES3.OB11-1 New _____

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
 _____ Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10
55.43 5

Comments:

RO/SRO TEST QUESTION #: 36

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.7.015.A1.08</u> | |
| Importance Rating | <u>3.3</u> | <u>3.4</u> |

Proposed Question:

Which limiting safety system setting is varied to correct for changes in coolant density and specific heat capacity of the reactor coolant system?

- A. Overpower N-16
- B. Power Range High Flux
- C. Pressurizer Low Pressure
- D. Overtemperature N-16

Proposed Answer: D

Explanation:

Technical Reference: TS Bases 3.3.1

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 9124 Modified X
New

Question History: Last NRC Exam Cook 1 (WEC), 7/7/1997

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 5
55.43

Comments:

Modifications: Reworded question, changed answer, and replaced one distracter.

RO/SRO TEST QUESTION #: **37**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.5.022.A1.02</u> | |
| Importance Rating | <u>3.6</u> | <u>3.8</u> |

Proposed Question:

The Containment internal pressure Technical Specification upper limit ensures that:

- A. the containment structure is prevented from exceeding its design negative pressure differential of 5 psid with respect to the outside atmosphere.
- B. peak pressure does not exceed the Containment design pressure during a LOCA.
- C. excessive quantities of radioactive materials will not be released via the Containment Ventilation System.
- D. the structural integrity of the containment will be maintained comparable to the original design standard for the life of the facility.

Proposed Answer: B

Explanation:

Technical Reference: TS 3.6.4 Bases

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.CL1.OB32

Modified

New _____

Question History:

Last NRC Exam _____

Cognitive Level:

X Memory or Fundamental Knowledge
____ Comprehension or Analysis

10 CFR Part 55 Content:

55.41 9
55.43 2

Comments:

SRO (ONLY) TEST QUESTION #: 38

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.5.022.A2.06</u> | |
| Importance Rating | <u>2.8</u> | <u>3.2</u> |

Proposed Question:

The containment design criteria are based on limiting the containment leakage rate under design basis accident conditions. According to the limiting containment analysis, containment pressure will:

- A. exceed the containment design pressure for a short time, but the containment spray system will ultimately restore containment pressure below the design limit.
- B. not exceed the containment design pressure initially. However, the analysis assumes a hydrogen burn that results in containment overpressure, which is ultimately controlled by the containment spray system.
- C. exceed the containment ultimate capacity, leading to a gross failure of the containment structure.
- D. not exceed the containment design pressure as long as a single train of containment spray system operates to perform its design function.

Proposed Answer: D

Explanation:

Technical Reference: ERG-HP/LP BACKGROUND, FRZ-0.1

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

 MCO.MIF.OB102-1 New **Question History:**

Last NRC Exam _____

Cognitive Level: X

Memory or Fundamental Knowledge

 Comprehension or Analysis**10 CFR Part 55 Content:****55.41** 5 **55.43** 5 **Comments:**

RO/SRO TEST QUESTION #: **39**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

1

1

K/A #

3.4.059.A2.04

Importance Rating

2.9

3.4

Proposed Question:

ECA-2.1A/B, "Uncontrolled Depressurization of All Steam Generators," identifies that Auxiliary Feedwater flow to each Steam Generator with a narrow range level of less than 5% must be controlled at a minimum of 100 gpm. Which of the following is the reason for the minimum flow requirement?

- A. Prevent Steam Generator tube dryout.
- B. Ensure adequate RCS subcooling margin.
- C. Maintain a verifiable cooldown rate.
- D. Prevent further Steam Generator depressurization.

Proposed Answer: A

Explanation:

Technical Reference: ECA-2.1A/B STEP 2 AND BASES

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

SK1.XG1.OB103-1

New

Question History: Last NRC Exam

Cognitive Level:

X

Memory or Fundamental Knowledge

Comprehension or Analysis

10 CFR Part 55 Content:

55.41

5

55.43

5

Comments:

RO/SRO TEST QUESTION #: 40

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.5.E05.EA2.02</u> | |
| Importance Rating | <u>3.7</u> | <u>4.3</u> |

Proposed Question:

The plant staff has transitioned from EOP-3.0A (Steam Generator Tube Rupture) to FRC-0.1A (Response to Inadequate Core Cooling) due to an identified red path. While performing FRC-0.1A, a red path for loss of secondary heat sink occurs. Which of the following gives the correct operator action?

- A. Complete FRC-0.1A and then transition to FRH-0.1A (response to Loss of Secondary Heat Sink)
- B. Complete FRC-0.1A and then return to EOP-3.0A
- C. Transition immediately to FRH-0.1A and upon completion return to FRC-0.1A
- D. Transition immediately to FRH-0.1A and upon completion return to EOP-3.0A

Proposed Answer: A

Explanation:

Technical Reference: FRC-0.1, OCA-407

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank # CPSES Modified
FRC.XH2.OB404-1
 New _____

Question History: Last NRC Exam _____

Cognitive Level:

_____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:

55.41 _____
55.43 5

Comments:

SRO (ONLY) TEST QUESTION #: 41

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.2.004.A2.19</u> | |
| Importance Rating | <u>2.8</u> | <u>3.5</u> |

Proposed Question:

During chloride cleanup in the RCS, the CVCS demineralizers flow is:

- A. maximized to aid in removal of the chlorides through filtration.
- B. bypassed to maximize flow through the filters which expedites chloride removal by filtration.
- C. maximized to aid in removal of chlorides through ion exchange.
- D. bypassed to maximize flow through the filters which expedites chloride removal by ion exchange.

Proposed Answer: C

Explanation:

Technical Reference: CHM-109

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: _____ **Bank #** _____ **Modified** _____
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
 _____ Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 5
55.43 5

Comments:

RO/SRO TEST QUESTION #: **42**

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.4.061.A3.02</u> | |
| Importance Rating | <u>4.0</u> | <u>4.0</u> |

Proposed Question:

Given the following:

- ECA-2.1A, "Uncontrolled Depressurization of All Steam Generators," has been entered.
- SGs 1, 3, and 4 narrow range levels are 20%.
- SG 2 narrow range level is 40%.
- RCS pressure is 1200 psig and decreasing.
- RCS subcooling is 42 degrees F.
- Containment pressure is 14 psig.
- RCS cooldown rate is greater than 100 degrees F/hour.

Which one of the following actions should be taken for the given conditions?

- A. Stop AFW flow to all SGs until cooldown rate is less than 100 degrees F/hour.
- B. Reduce AFW flow to all SGs to 100 gpm until cooldown rate is less than 100 degrees F/hour.
- C. Maintain total AFW flow > or = 460 gpm until cooldown rate is less than 100 degrees F/hour.
- D. Reduce AFW flow to SG 2 to 100 gpm and stop AFW flow to SGs 1, 3, and 4 until cooldown rate is less than 100 degrees F/hour.

Proposed Answer: B**Explanation:****Technical Reference:** ECA-2.1A**Proposed references to be provided to applicants during examination:****Learning Objective:** _____**Question Source:**

Bank #

CPSES
EO2.XG4.OB900
001

Modified

New **Question History:**

Last NRC Exam _____

Cognitive Level:

| | |
|---------------|---------------------------------|
| <u> </u> | Memory or Fundamental Knowledge |
| <u>X</u> | Comprehension or Analysis |

10 CFR Part 55 Content:

| | |
|--------------|---------------|
| 55.41 | <u>7</u> |
| 55.43 | <u> </u> |

Comments:**RO/SRO TEST QUESTION #:** 43

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.2.004.A3.12</u> | |
| Importance Rating | <u>3.0</u> | <u>2.7</u> |

Proposed Question:

TCV-129 protects the BTRS demineralizers by:

- A. shutting the BTRS isolation valves at 155°F upstream of the BTRS demineralizers.
- B. diverting CVCS letdown flow to the VCT which stops flow through BTRS at 155°F upstream of the BTRS demineralizers.
- C. starting the BTRS chiller at 155°F upstream of the BTRS demineralizers.
- D. TCV-129 does not protect the BTRS demineralizers.

Proposed Answer: B

Explanation:

Technical Reference: SOP-106A SECTION 4.0

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.BT1.OB900
016

Modified

New

Question History: Last NRC Exam _____

Cognitive Level:

X Memory or Fundamental Knowledge
_____ Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7
55.43 _____

Comments:

RO/SRO TEST QUESTION #: **44**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.2.060.AA2.02</u> | |
| Importance Rating | <u>3.1</u> | <u>4.0</u> |

Proposed Question:

Which of the following are considered as a Gaseous Radioactive Effluent Release source per the ODCM?

- A. U1 Containment Purge
- B. Fuel Building Ventilation
- C. Auxiliary Building Ventilation
- D. U2 Condenser Off Gas

Proposed Answer: A

Explanation:

Technical Reference: ODCM

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES
ADM.XA8.OB02
002

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content:

55.41
55.43 5

Comments:

SRO (ONLY) TEST QUESTION #: 45

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.4.059.A4.11</u> | |
| Importance Rating | <u>3.1</u> | <u>3.3</u> |

Proposed Question:

Which ONE of the following Feedwater Isolation Signals (FWI) must be manually reset by pushing the FWI reset pushbuttons before the feedwater isolation valves may be opened?

- A. Containment Isolation
- B. Safety Injection
- C. Hi-Hi Steam Generator Level
- D. P-4 coincident with Lo Tave.

Proposed Answer: D

Explanation:

Technical Reference: SOP-302A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.MF1.OB07 -
 002

Modified

New

Question History: Last NRC Exam

Cognitive Level:

 X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7
55.43

Comments:

RO/SRO TEST QUESTION #: **46**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|------------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.9.068.G.2.3.4</u> | |
| Importance Rating | <u>2.5</u> | <u>3.1</u> |

Proposed Question:

What is the maximum curie content for the Gas Storage Tanks?

- A. Less than or equal to 200,000 Ci of Noble Gas (Xe-133 equivalent)
- B. Less than or equal to 100,000 Ci of Noble Gas (Xe-133 equivalent)
- C. Less than or equal to 200,000 Ci of Noble Gas (I-131 equivalent)
- D. Less than or equal to 100,000 Ci of Noble Gas (I-131 equivalent)

Proposed Answer: A

Explanation:

Technical Reference: TRM 13.10.32

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
Comprehension or Analysis

10 CFR Part 55 Content: 55.41 13
55.43 4

Comments:

RO/SRO TEST QUESTION #: 47

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

1

1

K/A #

3.7.015.K1.03

Importance Rating

3.1

3.1

Proposed Question:

A normal reactor startup is planned for the unit following maintenance on excore nuclear instrumentation. Believing a problem may still exist, the RO is directed to closely observe source range operation throughout the evolution. Which one of the following is an indicator that the source range channel failed high during the reactor startup? Assume that the reactor trips.

- A. Rod withdrawal block
- B. P-6 energized
- C. P-10 energized
- D. Flux Doubling Alarm is lit

Proposed Answer: D

Explanation:

Technical Reference: ALM-0064

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

SYS.EC1.OB10-2

New

Question History: Last NRC Exam

Cognitive Level:

Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content:

55.41 2, 9

55.43

Comments:

RO/SRO TEST QUESTION #: 48

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|------------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.5.E.16.EK1.03</u> | |
| Importance Rating | <u>3.0</u> | <u>3.3</u> |

Proposed Question:

While responding to a loss of coolant accident, the Unit 2 Unit Supervisor directs the Reactor Operator to maintain Steam Generator level between 18% and 50% Narrow Range. Which of the following would require this level to be maintained?

- A. Containment radiation 3×10^4 R/hr
- B. Containment pressure at HI-1.
- C. Containment temperature 205°F
- D. Containment integrated dose 1.5×10^6 Rad

Proposed Answer: D

Explanation:

Technical Reference: EOP-0.0A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
EO0.XG2.OB405
017

Modified

New

Question History: Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content:

55.41 8, 10
55.43 5

Comments:

SRO (ONLY) TEST QUESTION #: 49

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.1.001.K1.05</u> | |
| Importance Rating | <u>4.5</u> | <u>4.4</u> |

Proposed Question:

An approach to criticality is being performed by means of control rod withdrawal. The RO stops control rod motion when the reactor is close to criticality but still subcritical. The SR count rate should:

- A. continue to increase, but at a slower rate. The startup rate should stabilize at a lower positive value.
- B. continue to increase and then gradually plateau. The startup rate should gradually decrease to zero.
- C. stop increasing and stabilize at its present value. The startup rate should immediately decrease to zero.
- D. begin to slowly decrease. The startup rate should gradually decrease to zero from a slightly negative value.

Proposed Answer: B

Explanation:

Technical Reference: IPO-002A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
IPO.XO2.OB900-
012

Modified

New _____

Question History:

Last NRC Exam _____

Cognitive Level:

_____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:

55.41 2, 9
55.43 _____

Comments:

RO/SRO TEST QUESTION #: **50**

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.8.029.A2.01</u> | |
| Importance Rating | <u>2.9</u> | <u>3.6</u> |

Proposed Question:

Given the following conditions:

- Unit 1 is in mode 6 for a refueling outage.
- Off-load of fuel is 55 % complete and ongoing.
- Containment purge and exhaust is in service.
- The I & C department has just reported that the current ALERT and HI alarm setpoints for CONTAINMENT AIR GAS RADIATION MONITOR were incorrectly set two decades HIGH.

Based on this information, the required action is to:

- A. Enter T.S. LCO 3.3.6 (Containment Ventilation Isolation Instrumentation)
- B. Enter T.S. LCO 3.3.2 (ESFAS Instrumentation)
- C. Enter T.S. LCO 3.3.3 (PAM Instrumentation)
- D. Enter T.S. LCO 3.6.1 (Containment)

Proposed Answer: A

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 1342 Modified
New

Question History: Last NRC Exam North Anna 1 (WEC), 1/26/1996

Cognitive Level: Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 10
55.43 5

Comments:

SRO (only) TEST QUESTION #: **51**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.4.003.K1.01</u> | |
| Importance Rating | <u>2.6</u> | <u>2.8</u> |

Proposed Question:

Per SOP-108A, a running RCP Oil Lift Pump is stopped:

- A. immediately after its associated RCP has started.
- B. one minute after its associated RCP has stopped.
- C. one minute after its associated RCP has started.
- D. immediately before its associated RCP is stopped.

Proposed Answer: C

Explanation:

Technical Reference: SOP-108A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
_____ Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 2, 9
55.43 _____

Comments:

RO/SRO TEST QUESTION #: **52**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-----------------------|------------|
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>4.2.032.AK3.02</u> | |
| Importance Rating | <u>3.7</u> | <u>4.1</u> |

Proposed Question:

A Reactor Startup is in progress with Control Bank B at 50 steps and Reactor Power at 102 CPS. Which ONE of the following is required if one Source Range Nuclear Channel fails low and why?

- A. Suspend the Reactor Startup to ensure protection against rod withdrawal accidents.
- B. Place the SRNI channel in the tripped condition within 6 hours to prevent inadvertent reactor trip.
- C. Verify Shutdown Margin within one hour to ensure adequate negative reactivity can be inserted to shutdown the reactor if necessary.
- D. Continue the startup since SRNI channels are not required to show protection above the P-6 interlock.

Proposed Answer: A

Explanation:

Technical Reference: TS 3.3.1 and Bases

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: 55.41 _____
55.43 2, 5

Comments:

SRO (ONLY) TEST QUESTION #: 53

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.5.022.K3.02</u> | |
| Importance Rating | <u>3.0</u> | <u>3.3</u> |

Proposed Question:

Which plant condition will most likely cause a RV FLANGE LKOFF TEMP HI alarm?

- A. Loss of Ventilation Chillers 1, 2, 3 and 4.
- B. Loss of Ventilation Chillers 7, 8 and 9.
- C. Loss of power to 1PC1.
- D. Loss of power to 1C1.

Proposed Answer: A

Explanation:

Technical Reference: ALM-0053A, Window 1.1

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES
SYS.RC1.OB04

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

X

Memory or Fundamental Knowledge

 Comprehension or Analysis

10 CFR Part 55 Content:

55.41

7

55.43

Comments:

RO/SRO TEST QUESTION #: 54

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

1

1

K/A #

3.4.061.K3.02

Importance Rating

4.2

4.4

Proposed Question:

In the event of a total loss of all feedwater, three options for restoration of core cooling are analyzed. Which of the below is **NOT** an analyzed option?

- A. manual opening of the PORV(s) to depressurize the RCS
- B. manual opening of the SG ARVs to allow AFW flow to the SGs
- C. manual initiation of safety injection for core cooling
- D. restoration of AFW to reestablish the SGs as a heat sink

Proposed Answer: B

Explanation:

Technical Reference: LO21.MCO.MI4.LN

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

MCO.MI4.OB103 -
006

New

Question History: Last NRC Exam

Cognitive Level: X Memory or Fundamental Knowledge
Comprehension or Analysis

| | | |
|-------------------------|-------|---|
| 10 CFR Part 55 Content: | 55.41 | 7 |
| | 55.43 | |

Comments:

RO/SRO TEST QUESTION #: 55

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.4.061.K4.01</u> | |
| Importance Rating | <u>4.1</u> | <u>4.2</u> |

Proposed Question:

Given the following:

- o CST Level is 200,000 gallons.
- o The Unit is in mode 3.
- o A loss of offsite power has occurred.
- o Steam is being released through the S/G ARV's.

Is the CST level sufficient and why?

- A. Yes, because it is sufficient to hold the unit in mode 3 for 4 hours, followed by a cooldown to RHR entry conditions at the design rate of 25°F/hr.
- B. No, because it is insufficient to hold the unit in mode 3 for 4 hours, followed by a cooldown to RHR entry conditions at the design rate of 25°F/hr.
- C. Yes, because it is sufficient to hold the unit in mode 3 for 4 hours, followed by a cooldown to RHR entry conditions at the design rate of 50°F/hr.
- D. No, because it is insufficient to hold the unit in mode 3 for 4 hours, followed by a cooldown to RHR entry conditions at the design rate of 50°F/hr.

Proposed Answer: D

Explanation:

Technical Reference: TS 3.7.6 bases

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 7
55.43 2

Comments:

SRO (ONLY) TEST QUESTION #: 56

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.2.013.K4.12</u> | |
| Importance Rating | <u>3.7</u> | <u>3.9</u> |

Proposed Question:

WHICH ONE (1) of the following describes the design interlock or operating practice that is used to prevent ALL automatic Safety Injection (SI) actuations following a reset of the SI signal?

- A. The sixty (60) second delay timer in the SI reset circuitry.
- B. Manually blocking steam line pressure and PZR pressure SI from the control board.
- C. The seal-in feature of the reset circuitry disarms all subsequent SI actuations.
- D. The P-4 interlock, actuated by the opening of the reactor trip breakers.

Proposed Answer: D

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination: _____

Learning Objective: _____

Question Source: Bank # INPO 4225 Modified
New

Question History: Last NRC Exam Harris 1 (WEC), 2/24/1997

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7
55.43

Comments:

RO/SRO TEST QUESTION #: 57

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.1.001.K4.23</u> | |
| Importance Rating | <u>3.4</u> | <u>3.8</u> |

Proposed Question:

During a 10% step load increase, the operator observes:

- 855 MWe (stable)
- Tave - Tref error = 8°F (Tave 8°F low)
- 68% RTP (increasing)
- all controls in automatic
- RCS Pressure is 2220 psig

Which of the below describes a possible response of the rod control system during this transient?

- A. OPNI6 rod stop (C-4) prevents outward rod motion.
- B. Increasing Rx power with constant turbine load causes Rods to move out.
- C. Increasing Rx Power input offsets Temperature error input to Rod Control System which causes Rods to remain unmoved.
- D. OTN16 rod stop (C-3) prevents outward rod motion.

Proposed Answer: C

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # CPSES Modified
MCO.TA2.OB103
 New _____

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7
 55.43 _____

Comments:

RO/SRO TEST QUESTION #: 58

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>3.2.013.K6.01</u> | |
| Importance Rating | <u>2.7</u> | <u>3.1</u> |

Proposed Question:

With one Hi containment pressure detector failed low, an Engineered Safety Features (ESF) Containment Hi-3 Pressure signal would require:

- A. 2/2 remaining Hi containment pressure detectors sense pressure \geq 3.2 psig.
- B. 2/2 remaining Hi containment pressure detectors sense pressure \geq 18.2 psig.
- C. 2/3 remaining Hi containment pressure detectors sense pressure \geq 18.2 psig.
- D. 2/3 remaining Hi containment pressure detectors sense pressure \geq 3.2 psig.

Proposed Answer: C

Explanation:

Technical Reference: ALM-0022A (ALB 2B, 3.10)

Proposed references to be provided to applicants during examination:

Learning Objective:**Question Source:**

Bank #

CPSES

Modified

SYS.CT1.OB04-3X

New

Question History:

Last NRC Exam

Cognitive Level:X

Memory or Fundamental Knowledge

 Comprehension or Analysis**10 CFR Part 55 Content:****55.41**7**55.43****Comments:**

Modified: altered stem and one distracter

RO/SRO TEST QUESTION #: 59

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.7.012.A1.01</u> | |
| Importance Rating | <u>2.9</u> | <u>3.4</u> |

Proposed Question:

During the performance of OPT-309, "Unit Calorimetric", the feedwater temperature points utilized were reading 10°F LOWER than actual feedwater temperature. Power range nuclear instruments adjustments were performed per the OPT.

What is the status of the current power range indications?

- A. Indicated power is LESS THAN actual power; therefore, power range instruments are set CONSERVATIVELY.
- B. Indicated power is LESS THAN actual power; therefore, power range instruments are set NON-CONSERVATIVELY.
- C. Indicated power is GREATER THAN actual power; therefore, power range instruments are set NON-CONSERVATIVELY.
- D. Indicated power is GREATER THAN actual power; therefore, power range instruments are set CONSERVATIVELY.

Proposed Answer: D

Explanation:

Technical Reference: LO21.SF4.XOC, OPT-309

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

SF4.XOC.OB103-1New **Question History:**

Last NRC Exam _____

Cognitive Level: Memory or Fundamental Knowledge X Comprehension or Analysis**10 CFR Part 55 Content:****55.41** 5, 14 **55.43** **Comments:**

RO/SRO TEST QUESTION #: **60**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

1

1

Group #

2

2

K/A #

4.2.022.AA2.03

Importance Rating

3.1

3.6

Proposed Question:

Following a loss of Instrument Air, how would the operator expect the Reactor Makeup System to respond?

NOTE: Valve Labels are as follows:

FCV-0110A = "BA to BA BLNDR 1-01 FLO CTRL VLV"

FCV-0110B = "U1 RCS MU to CHRG PMP FLO CTRL VLV"

FCV-0111A = "RCS MU to VCT 1-01 ISOL VLV"

FCV-0111B = "RMUW to CVCS BA BLNDR 1-01 FLO CTRL VLV"

- A. FCV-0110A and B fail closed, and FCV-0111A and B fail open.
B. FCV-0110A and B fail open, and FCV-0111A and B fail closed.
C. FCV-0111A and B and FCV-0110B fail open, while FCV-0110A fails closed.
D. FCV-0111A and B and FCV-0110B fail closed, while FCV-0110A fails open.

Proposed Answer: D

Explanation:

Technical Reference: ABN-301; M1-0255; M1-2255

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES
SYS.CS2.OB11-
001

Modified

New

Question History: Last NRC Exam

Cognitive Level: X Memory or Fundamental Knowledge

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 5, 10

55.43 2

Comments:

RO/SRO TEST QUESTION #: 61

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.6.062.A2.09</u> | |
| Importance Rating | <u>2.7</u> | <u>3.0</u> |

Proposed Question:

Current flow to ground is limited in a neutral grounding transformer by:

- A. the reflected impedance of the secondary into the primary.
- B. a parallel current limiting resistor.
- C. a protective overcurrent relay.
- D. a circuit breaker

Proposed Answer: A

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.AC2.OB900 -
002

Modified

New

Question History: Last NRC Exam

Cognitive Level:

 X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content:

55.41 5
55.43 5

Comments:

RO/SRO TEST QUESTION #: **62**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

1

1

Group #

2

2

K/A #

4.5.E.11.EK3.02

Importance Rating

3.5

4.0

Proposed Question:

In ECA-1.1A, "Loss of Emergency Coolant Recirculation", after the RWST is empty (12%) and any ECCS pumps taking suction from the RWST are stopped, the SGs are depressurized. Step 31 states: "Depressurize all intact SGs to inject accumulators as necessary". Choose the answer below that describes the intent of Step 31.

- A. The SGs are depressurized quickly in order to have the accumulator contents increase the recirc sump inventory.
- B. The core is kept covered by depressurizing all intact SGs slowly, extending the time to depletion of the accumulators.
- C. The SGs are depressurized, one at a time, to inject the accumulators one at a time.
- D. The accumulators are injected so that nitrogen to them can be isolated.

Proposed Answer: B

Explanation:

Technical Reference: ECA-1.1A

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

SM1.XGG.OB104

005

New

Question History: Last NRC Exam

Cognitive Level: Memory or Fundamental Knowledge

| | |
|---|---------------------------|
| X | Comprehension or Analysis |
|---|---------------------------|

10 CFR Part 55 Content: 55.41 5, 10

55.43 5

Comments:

SRO (ONLY) TEST QUESTION #: 63

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.2.011.A2.04</u> | |
| Importance Rating | <u>3.5</u> | <u>3.7</u> |

Proposed Question:

Unit 1 is in the following configuration: RCS pressure is 300 psig, Tavg is 300°F, and Train "A" RHR is in the shutdown cooling mode. At this point, pressurizer level starts decreasing rapidly with flow controller FK-121 fully open.

Select the correct action to be taken if pressurizer level continues to decrease.

- A. Unisolate the Safety Injection Accumulators.
- B. Reduce letdown flow - transfer to the 45 gpm orifice.
- C. Start all available charging pumps.
- D. Reset containment isolation Phase A and B.

Proposed Answer: C

Explanation:

Technical Reference: ABN-108

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.RC1.OB30 -
032

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content:

55.41 5
55.43 5

Comments:

RO/SRO TEST QUESTION #: **64**

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>1</u> |
| K/A # | <u>3.5.026.A3.01</u> | |
| Importance Rating | <u>4.3</u> | <u>4.5</u> |

Proposed Question:

A large break LOCA has occurred on Unit 1. Given the following conditions:

- Containment pressure is 22 psig
- Containment Spray failed to automatically initiate
- Manual handswitch actuation of Containment Spray was also unsuccessful

Which ONE of the following describes the required operator actions following manual start of Containment Spray Pumps?

- A. Verify CS Heat Exchanger Outlet valves are OPEN; manually OPEN Chemical Additive Tank Discharge valves.
- B. Manually OPEN CS Heat Exchanger Outlet valves; manually OPEN Chemical Additive Tank Discharge valves.
- C. Manually OPEN CS Heat Exchanger Outlet valves; verify Chemical Additive Tank Discharge valves are OPEN.
- D. Verify CS Heat Exchanger Outlet valves are OPEN; verify Chemical Additive Tank Discharge valves are OPEN.

Proposed Answer: B

Explanation:

Technical Reference: SOP-204A, FRZ-0.1A

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified X
New

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 7
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 65

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.4.055.A3.03</u> | |
| Importance Rating | <u>2.5</u> | <u>2.7</u> |

Proposed Question:

Given the following conditions:

-CEV 1-01 is in standby

-1PS-2971A (CEV 1-01 SUCT VLV 2971A pressure switch) is failed as is

If Main Condenser vacuum decreases to 23" with this alignment, how will CEV operation be affected?

- A. CEV 1-02 will eventually trip.
- B. CEV 1-01 will start on low vacuum, and 1-HV-2956 will open.
- C. CEV 1-01 will NOT start on low vacuum, and 1-HV-2956 will NOT open.
- D. CEV 1-01 will start on low vacuum, but 1-HV-2956 will NOT open.

Proposed Answer: D

Explanation:

Technical Reference: M1-2211, SH 02

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.CV1.OB106-
003

Modified

New

Question History: Last NRC Exam _____

Cognitive Level:

 Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7
55.43

Comments:

RO/SRO TEST QUESTION #: 66

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

2

2

K/A #

3.8.029.A4.04

Importance Rating

3.5

3.6

Proposed Question:

While a fuel assembly was being lowered into the Reactor vessel core, the Reactor Operator notes that the High Flux At Shutdown Alarm begins alarming. The control room should direct the following action:

- A. Movement of the fuel assembly must cease immediately. Containment evacuation is required.
- B. Core alterations may continue as long as the criticality alarm is NOT alarming. Containment evacuation is NOT required.
- C. Movement of the fuel assembly shall continue to place it in a safe location. Containment evacuation is required.
- D. Core alteration may continue as long as Containment Integrity is met. Containment evacuation is NOT required.

Proposed Answer: C

Explanation:

Technical Reference: TS 3.9; RFO-102, RFO-302

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES
RFO.SYE.OB404
002

Modified

New

Question History: Last NRC Exam

Cognitive Level:

| | |
|-----------------|---------------------------------|
| <u> </u> | Memory or Fundamental Knowledge |
| X | Comprehension or Analysis |

10 CFR Part 55 Content:

55.41 7
55.43

Comments:

RO/SRO TEST QUESTION #: 67

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|-------------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.7.012.G.2.2.22</u> | |
| Importance Rating | <u>3.4</u> | <u>4.1</u> |

Proposed Question:

While in mode 4 with one Control Bank rod indicating at 9 steps, what is the basis for requiring both Source Range Nuclear Instrument Reactor Trip System channels operable?

- A. SRNI RTS channels are not required to be operable below mode 2.
- B. They provide core protection against a rod withdrawal accident.
- C. They provide core protection against a inadvertent dilution accident.
- D. They provide protection to ensure the integrity of the fuel under all possible overpower conditions.

Proposed Answer: B

Explanation:

Technical Reference: TS SECTION 3.3.1

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: 55.41 _____
55.43 2

Comments:

SRO (ONLY) TEST QUESTION #: 68

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.7.016.K1.10</u> | |
| Importance Rating | <u>3.1</u> | <u>3.1</u> |

Proposed Question:

Which of the following conditions would require entering a CPSES Technical Specification Limiting Condition for Operation action with the plant in hot standby?

- A. Opening the outer door to the Personnel Air Lock to enter Containment
- B. Containment pressure at 1.2 psig
- C. Containment average temperature 123°F
- D. One train of Electric Hydrogen Recombiners inoperable

Proposed Answer: C

Explanation:

Technical Reference: TS 3.6.5

Proposed references to be provided to applicants during examination:

Learning Objective:**Question Source:**

Bank #

CPSES
SYS.CY1.OB900-
25

Modified

New **Question History:**Last NRC Exam **Cognitive Level:**

 X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content:

55.41 9
55.43

Comments:

RO/SRO TEST QUESTION #: **69**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.2.006.K2.02</u> | |
| Importance Rating | <u>2.5</u> | <u>2.9</u> |

Proposed Question:

Upon loss of all a/c power while operating in mode 1 at 100% power, how will the SIS Accumulator Isolation Valves respond?

- A. SIS Accumulator Isolation Valves are air operated and remain operable.
- B. They will fail open.
- C. They will fail shut.
- D. They will fail as-is.

Proposed Answer: D

Explanation:

The SIS Accumulator Isolation Valves are motor operated and will not change positions on loss of their 480v power supply.

Technical Reference: Drawings M1-0262, M1-2262, E1-0005, E1-0009

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 3, 7
55.43 _____

Comments:

RO/SRO TEST QUESTION #: **70**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

K/A #

3.4.035.K3.01

Importance Rating

4.4

4.6

Proposed Question:

Due to a malfunction with the S/G Blowdown Mixed Bed Demineralizer Outlet Radiation Valve, S/G Blowdown flow has isolated. What effect does this have on Reactor power if the unit is operating at 80% RTP?

- A. Reactor power increases slightly.
B. Reactor power decreases slightly.
C. Reactor power remains the same.
D. Reactor power decreases initially, and slowly rises back to original value.

Proposed Answer: B

Explanation:

Technical Reference: DBD-ME-0239

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

SYS.SB1.OB06-1

New

Question History: Last NRC Exam

Cognitive Level:

Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content:

55.41

5

55.43

Comments:

RO/SRO TEST QUESTION #: 71

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

2

2

K/A #

3.7.016.K3.08

Importance Rating

3.5

3.7

Proposed Question:

Unit 1 is operating at 100% power with all control systems in their normal alignment when the Pressurizer Pressure Instrument selected for control to the Pressurizer Master Pressure Controller fails high. Which of the below actions will occur? (assume no operator actions)

- A. PCV-455A will open and not re-close.
B. PCV-456 will open and not re-close.
C. PCV-456 will open and re-close at 2185 psig.
D. PCV-455A will open and re-close at 2185 psig.

Proposed Answer: D

Explanation:

Technical Reference: LO21.MCO.TA3.LP

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

MCO.TA3.OB102 -
24

New

Question History: Last NRC Exam

Cognitive Level:

X

Memory or Fundamental Knowledge

Comprehension or Analysis

10 CFR Part 55 Content:

55.41

7

55.43

Comments:

RO/SRO TEST QUESTION #: 72

Examination Outline Cross-reference:

| | | |
|-------------------|-----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>1</u> | <u>1</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>4.2.069.AK1.01</u> | |
| Importance Rating | <u>2.6</u> | <u>3.1</u> |

Proposed Question:

The following plant conditions exist:

- o Procedure in effect EOP-1.0B.
- o Containment pressure 65 psig and increasing.

You transition to FRZ-0.1B, "Response to High Containment Pressure" and upon completion of all steps in FRZ-0.1B, you determine that containment pressure is now 61 psig. At this point, you are required to:

- A. reinitiate and remain in FRZ-0.1B until the condition is no longer an ORANGE priority.
- B. exit FRZ-0.1B and enter EOS-0.0B.
- C. reinitiate and remain in FRZ-0.1B until the condition is no longer a RED priority.
- D. exit FRZ-0.1B and return to EOP-1.0B at the step in effect.

Proposed Answer: D

Explanation:

Technical Reference: FRZ-0.1B, and ODA-407 "Guideline on Use of Procedures"

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 8, 10
55.43 5

Comments:

SRO (ONLY) TEST QUESTION #: 73

Examination Outline Cross-reference:

| | | |
|-------------------|---------------|------------|
| Level | RO | SRO |
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>2.1.19</u> | |
| Importance Rating | <u>3.0</u> | <u>3.0</u> |

Proposed Question:

Given the following Unit 1 plant conditions:

- o A reactor trip and safety injection have occurred.
- o RCS pressure is stable at 420 psig.
- o Over the last hour the cold leg temperatures have decreased to 240°F as follows:

| | | |
|----------------|---|-------|
| 60 minutes ago | - | 350°F |
| 45 minutes ago | - | 315°F |
| 30 minutes ago | - | 285°F |
| 15 minutes ago | - | 260°F |
| Now | - | 240°F |

Which ONE of the following would be the appropriate procedure in response to the current state of the Integrity CSF?

- A. FRP-0.2A
- B. FRP-0.1A
- C. FRP-0.3A
- D. CSF is satisfied

Proposed Answer: B

Explanation:

Technical Reference: Integrity CSF diagram

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified X
New

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10
55.43 5

Comments:

SRO (ONLY) TEST QUESTION #: 74

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.7.073.K4.01</u> | |
| Importance Rating | <u>4.0</u> | <u>4.3</u> |

Proposed Question:

If the S/G Blowdown Mixed Bed Demineralizer Outlet Radiation Monitor was to lose power, what effect would this have on the S/G Blowdown System?

- A. The Control Room would not receive warning of S/G Blowdown Demineralizer resin exhaustion.
- B. The radiation valve would close and all S/G Blowdown flow stops.
- C. The radiation valve will be unable to perform its intended function.
- D. The Control Room would receive a S/G Blowdown Panel trouble alarm and the system will continue to operate.

Proposed Answer: B

Explanation:

Technical Reference: E1-0040, Sh 97, ALM-3200 att 3

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # CPSES Modified
 SYS.SB1.OB09-2
New

Question History: Last NRC Exam

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7
 55.43 4

Comments:

RO/SRO TEST QUESTION #: 75

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.8.086.K4.01</u> | |
| Importance Rating | <u>3.1</u> | <u>3.7</u> |

Proposed Question:

A fire has been reported in the Aux. Building. The Fire Brigade has responded and is using the Fire Protection Hose Stations to fight the fire. Which ONE of the following describes the response of the fire pumps to decreasing fire header pressure?

- A. The diesel driven pumps start at 142 psig and the electric fire pump starts if pressure is not raised above 120 psig in 10 seconds.
- B. One diesel driven fire pump starts at 148 psig and the electric fire pump starts at 120 psig.
- C. The electric fire pump starts at 142 psig and one diesel driven fire pump starts in 10 seconds if pressure is not above 140 psig.
- D. The electric fire pump starts at 142 psig; one diesel driven fire pump starts at 120 psig; the other diesel driven fire pump starts in 10 seconds if pressure is not raised above 120 psig.

Proposed Answer: C

Explanation:

Technical Reference: SOP-904

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.FP1.OB106-
001

Modified

New

Question History:

Last NRC Exam

Cognitive Level:X

Memory or Fundamental Knowledge

Comprehension or Analysis

10 CFR Part 55 Content:**55.41**7**55.43****Comments:**

RO/SRO TEST QUESTION #: **76**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>2.1.22</u> | |
| Importance Rating | <u>2.8</u> | <u>3.3</u> |

Proposed Question:

Consider the following conditions:

- The plant is currently shutdown
- Reactor power = 0%
- T_c = 360°F and steady
- K_{eff} = .90
- All reactor head closure bolts are fully tensioned

The procedure governing the current mode is:

- A. IPO-003B
- B. IPO-001B
- C. IPO-007B
- D. IPO-010B

Proposed Answer: B

Explanation:

Technical Reference: TS table 1.1-1, IPO-001B

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified
New X

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 10
55.43 5

Comments:

SRO (ONLY) TEST QUESTION #: 77

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>3.8.086.K4.03</u> | |
| Importance Rating | <u>3.1</u> | <u>3.7</u> |

Proposed Question:

The Unit 2 Safeguards PEO has reported that the 2-02 Diesel Generator Starting Air Compressor is extremely warm. If a fire were to occur on this component a local.....

- A. ionization smoke detector would detect the fire and initiate the deluge system.
- B. thermal detector would detect the fire and provide alarms.
- C. thermal detector would detect the fire and initiate the deluge system.
- D. ionization smoke detector would detect the fire and provide alarms.

Proposed Answer: D

Explanation:

Technical Reference: ABN-901 att1 & 5

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.FP1.OB303 -
001

Modified

New

Question History: Last NRC Exam

Cognitive Level:

 X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7
55.43

Comments:

RO/SRO TEST QUESTION #: **78**

Examination Outline Cross-reference:

Level

RO

SRO

Tier #

2

2

Group #

K/A #

3.3.010.K5.02

Importance Rating

2.6

3.0

Proposed Question:

The pressurizer is being maintained at 2000 psia and 636 °F when one of the Power-Operated Relief Valves (PORVs) starts to leak to the Pressurizer Relief Tank (PRT). The PRT pressure is maintained at 5 psig. The TEMPERATURE of the fluid immediately downstream of the PORV is approximately:

- A. 220°F
B. 240°F
C. 230°F
D. 250°F

Proposed Answer: C

Explanation:

The process is isenthalpic and the fluid downstream of the PORV is at the same pressure as the PRT. Assume Containment pressure is 15 psia. Convert PRT pressure from psig to psia:

- PRT pressure = 5 psig + 15 psi = 20 psia.
- From Steam Table 2 (or the Mollier Diagram),
- Tsat (20 psia) = 228 °F (approx. 230 °F).

Technical Reference: OP51.SYS.PP1.LN

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

SYS.PP1.OB09-7

New

Question History: Last NRC Exam

Cognitive Level:

Memory or Fundamental Knowledge

X

Comprehension or Analysis

10 CFR Part 55 Content:

55.41

5

55.43

Comments:

RO/SRO TEST QUESTION #: 79

Examination Outline Cross-reference:

| | | |
|-------------------|----------------------|------------|
| Level | RO | SRO |
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>3.8.008.A2.04</u> | |
| Importance Rating | <u>3.3</u> | <u>3.5</u> |

Proposed Question:

Unit 1 is operating at 100% power in normal alignment when the following events occur:

- A rupture develops in RCP 1-01 thermal barrier.
- ONE of the CCW radiation monitors has just gone into alarm.
- CCW surge tank level reads 80%.
- CCW flow from RCP thermal barriers has increased to 70 gpm on RCP 1-01.
- CCW thermal barriers return temperature is 170°F and rising.

Which one of the following describes current condition of the CCW thermal barrier return containment isolation valves, and RCP 1-01 thermal barrier outlet?

- A. RCP 1-01 thermal barrier CCW outlet valve closes and the thermal barrier return CCW containment isolation valve IRC closes.
- B. RCP 1-01 thermal barrier CCW outlet valve remains open and the thermal barrier return CCW containment isolation valve IRC closes.
- C. RCP 1-01 thermal barrier CCW outlet valve closes and the thermal barrier return CCW containment isolation valve IRC remains open.
- D. RCP 1-01 thermal barrier CCW outlet valve remains open and the thermal barrier return CCW containment isolation valve IRC remains open.

Proposed Answer: B

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination: _____

Learning Objective: _____

Question Source: Bank # INPO 5100 Modified
New

Question History: Last NRC Exam Turkey Point 4 (WEC), 8/7/1998

Cognitive Level: Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content: 55.41 11
55.43 5

Comments:

RO/SRO TEST QUESTION #: 80

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>3.4.045.K1.06</u> | |
| Importance Rating | <u>2.6</u> | <u>2.6</u> |

Proposed Question:

Which of the following conditions will actuate the "MSIV #1 TEST FAILED" alarm?

- A. MSIV-1 fails to reach 90% open in 10 seconds or less.
- B. MSIV-1 fails to reach 90% open in 20 seconds or less.
- C. MSIV-1 closes 10% and fails to return to full open.
- D. MSIV-1 closes more than 10% during the test.

Proposed Answer: B

Explanation:

Technical Reference: OP51.SYS.MR1.OB20

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES

Modified

 SYS.MR1.OB20-1

New

Question History:

Last NRC Exam

Cognitive Level:

 X

Memory or Fundamental Knowledge

 Comprehension or Analysis

10 CFR Part 55 Content:

55.41 7 **55.43**

Comments:

RO/SRO TEST QUESTION #: 81

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|--------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>2.1.6</u> | |
| Importance Rating | <u>2.1</u> | <u>4.3</u> |

Proposed Question:

The Unit 1 crew is in EOP-3.0A, Steam Generator Tube Rupture, due to a tube rupture on Steam Generator #3 when the STA reports that CET temperatures indicate 1250 °F. The crew transitions from EOP-3.0A to respond to the high CET temperatures when the BOP reports that all AFW flow has been lost and only the ruptured Steam Generator #3 has a level above 30% Narrow Range. Which of the following gives the correct operator action?

- A. Complete FRC-0.1A and then transition to FRH-0.1A (response to Loss of Secondary Heat Sink)
- B. Complete FRC-0.1A and then return to EOP-3.0A
- C. Transition immediately to FRH-0.1A and upon completion return to FRC-0.1A
- D. Transition immediately to FRH-0.1A and upon completion return to EOP-3.0A

Proposed Answer: B

Explanation:

Technical Reference: FRC-0.1, ODA-407

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES

Modified

 FRC.XH2.OB404-2 New **Question History:**Last NRC Exam **Cognitive Level:** Memory or Fundamental Knowledge X Comprehension or Analysis**10 CFR Part 55 Content:****55.41** **55.43** 5 **Comments:**

SRO (ONLY) TEST QUESTION #: 82

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>3.4.076.K2.01</u> | |
| Importance Rating | <u>2.7</u> | <u>2.7</u> |

Proposed Question:

Which of the following components is powered from the safeguards 6.9 KV buses?

- A. CWPs
- B. RCPs
- C. HDPs
- D. SSWPs

Proposed Answer: D

Explanation:

Technical Reference: E1-0003, E1-0004

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.AC2.OB03 -
 004

Modified

New

Question History: Last NRC Exam

Cognitive Level:

 X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content:

55.41 4
55.43

Comments:

RO/SRO TEST QUESTION #: **83**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>3.4.045.K4.47</u> | |
| Importance Rating | <u>4.0</u> | <u>4.3</u> |

Proposed Question:

The Technical Specification basis for the P-4 interlock is:

- A. The P-4 interlock anticipates a loss of heat sink.
- B. The P-4 interlock protects against severe challenges to the electrical distribution system resulting from fluctuating steam pressures.
- C. The P-4 interlock protects against turbine damage due to carryover.
- D. The P-4 interlock protects the reactor from excessive cooldown.

Proposed Answer: D

Explanation:

Technical Reference: TS 3.3.2 bases

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified X
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
Comprehension or Analysis

10 CFR Part 55 Content: **55.41** _____
55.43 2

Comments:

SRO (ONLY) TEST QUESTION #: 84

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>4</u> | <u>4</u> |
| K/A # | <u>2.4.43</u> | |
| Importance Rating | <u>2.8</u> | <u>3.5</u> |

Proposed Question:

A NOUE was upgraded to an ALERT at 2 pm. What is the LATEST time allowed to report this change to the NRC?

- A. 6:00 pm
- B. 2:15 pm
- C. 10:00 pm
- D. 3:00 pm

Proposed Answer: D

Explanation:

Technical Reference: 10 CFR 50.72

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified X
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
_____ Comprehension or Analysis

10 CFR Part 55 Content: **55.41** _____
55.43 1, 5

Comments:

SRO (ONLY) TEST QUESTION #: 85

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>3</u> | <u>2</u> |
| K/A # | <u>3.5.028.K5.02</u> | |
| Importance Rating | <u>3.4</u> | <u>3.9</u> |

Proposed Question:

Systems which are used to control the buildup of combustible gas inside the Containment Building are the:

- A. Catalytic Hydrogen Recombiners and the Waste Gas Processing System
- B. Containment Preaccess Filtration and the Containment Purge Supply and Exhaust System.
- C. Electric Hydrogen Recombiners and the Hydrogen Purge Supply and Exhaust System.
- D. Containment Air Cooling and Recirculation System and the Containment Preaccess Filtration System.

Proposed Answer: C

Explanation:

Technical Reference: CP-0001-41

Proposed references to be provided to applicants during examination:

Learning Objective:**Question Source:**

Bank #

CPSES
SYS.CY1.OB104
- 002

Modified

New

Question History:

Last NRC Exam

Cognitive Level:X

Memory or Fundamental Knowledge

Comprehension or Analysis

10 CFR Part 55 Content:**55.41**5**55.43****Comments:**

RO/SRO TEST QUESTION #: 86

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|----------------------|------------|
| Tier # | <u>2</u> | <u>2</u> |
| Group # | <u>3</u> | <u>2</u> |
| K/A # | <u>3.5.028.K6.01</u> | |
| Importance Rating | <u>2.6</u> | <u>3.1</u> |

Proposed Question:

While operating at 100% power on Unit 2, one of the Electric Hydrogen Recombiners becomes inoperable. The remaining electric hydrogen recombination capacity with respect to the design basis accident is:

- A. reduced to 50%
- B. reduced to 75%
- C. remains 100%
- D. reduced to 66.7%

Proposed Answer: C

Explanation:

Technical Reference: TS Bases 3.6.8

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 7
55.43 _____

Comments:

RO/SRO TEST QUESTION #: **87**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>2.1.16</u> | |
| Importance Rating | <u>2.9</u> | <u>2.8</u> |

Proposed Question:

Select the statement that describes why portable radios should not be used in "Radio Free Zones."

- A. Radio transmission interferes with security radios in the event of a security plan implementation.
- B. Radios may distract operator concentration from critical tasks.
- C. Radios are useless in these areas due to signal reception difficulties.
- D. Radios produce electromagnetic interference (EMI) that may cause inadvertent equipment operation.

Proposed Answer: D

Explanation:

Technical Reference: _____

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 5417 Modified
New

Question History: Last NRC Exam Salem 1 (WEC), 1/22/1996

Cognitive Level: X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 10
55.43

Comments:

RO/SRO TEST QUESTION #: **88**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>2.1.18</u> | |
| Importance Rating | <u>2.9</u> | <u>3.0</u> |

Proposed Question:

The NRC must be notified in writing within 30 days if a licensed operator is convicted of a felony. Which of the following is responsible for notifying the NRC of the conviction?

- A. The licensed individual.
- B. The Manager, Operations.
- C. The Plant Manager.
- D. Vice President, Nuclear Operations.

Proposed Answer: A

Explanation:

Technical Reference: STA-501

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # CPSES Modified
ADM.XA7.OB01-2
New _____

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
_____ Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10
55.43 _____

Comments:

RO/SRO TEST QUESTION #: 89

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>1</u> | <u>1</u> |
| K/A # | <u>2.1.24</u> | |
| Importance Rating | <u>2.8</u> | <u>3.1</u> |

Proposed Question:

Given drawing E1-0057 Sheet 16, determine which of the following signals will generate an open signal to Fan 9 Isolation Damper 1-HV-5953.

- A. Energizing the 42 relay.
- B. Energizing the 1-HX-5952 relay.
- C. Energizing the 1-42AX/5952 relay.
- D. Energizing the 74 relay.

Proposed Answer: B

Explanation:

Technical Reference: E1-0057 sheet 16

Proposed references to be provided to applicants during examination:

E1-0057 sheet 16

Learning Objective: _____**Question Source:**

Bank #

CPSES
SYS.HV2.OB07-1

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content:

55.41

7

55.43

Comments:

RO/SRO TEST QUESTION #: 90

Examination Outline Cross-reference:

| | | |
|-------------------|--------------|------------|
| Level | RO | SRO |
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>2.2.3</u> | |
| Importance Rating | <u>3.1</u> | <u>3.3</u> |

Proposed Question:

Identify the unit difference of the Process Sampling System.

- A. Unit 1 sample coolers are supplied by Train A CCW while Unit 2 sample coolers are supplied by Train B CCW.
- B. Unit 2 sampling valves all fail open.
- C. Unit 1 sample hood purge flow is directed to FDT #3.
- D. Spent Fuel Pool demineralizers sample is taken on Unit 1 side.

Proposed Answer: D

Explanation:

Technical Reference: OP51.SYS.PA2.OB21

Proposed references to be provided to applicants during examination:

Learning Objective:**Question Source:**

Bank #

CPSES

Modified

SYS.PA2.OB21-1New **Question History:**Last NRC Exam **Cognitive Level:** X

Memory or Fundamental Knowledge

 Comprehension or Analysis**10 CFR Part 55 Content:****55.41** 7 **55.43** 7 **Comments:**

RO/SRO TEST QUESTION #: **91**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>2.2.22</u> | |
| Importance Rating | <u>3.4</u> | <u>4.1</u> |

Proposed Question:

With Unit 2 operating in MODE 2, which one of the following renders an Auxiliary Feedwater Pump INOPERABLE?

- A. Leaving AFWT speed control (2-SK-2452A) at 0% output.
- B. AFW suction lined up to Station Service Water.
- C. Safeguards Bus 2EA2 powered from alternate transformer XST2 (2EA2-2 closed).
- D. A flow control valve from the motor driven pumps fully shut while transferring from AFW to the Main Feed Bypass Control valves.

Proposed Answer: A

Explanation:

Technical Reference: TS 3.7.5

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.AF1.OB29 -
005

Modified

New

Question History: Last NRC Exam

Cognitive Level:

 Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content:

55.41
55.43 2

Comments:

SRO (ONLY) TEST QUESTION #: 92

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>2.2.23</u> | |
| Importance Rating | <u>2.6</u> | <u>3.8</u> |

Proposed Question:

The plant is operating at 100% power. The TDAFW Pump is being started up for testing. While the pump is operating, a significant break develops in one of the steam supply lines to the pump. The control room responds to MCB alarms and fire panel alarms and isolates the leak by closing both HV-2452-1 and HV-2452-2 (TDAFWP Steam Supplies). The steam supply is further isolated by closing the manual Isolation Valves for steam supplies. Under these conditions, the plant:

- A. can continue to operate as long as the remaining AFW pumps are verified to be OPERABLE within 8 hours and at least once per 31 days.
- B. can continue to operate, but the steam supplies must be restored to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- C. can continue to operate for up to 72 hours, by which time the break must be repaired and the pump returned to operable status, or be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN in the following 6 hours.
- D. must be shut down to HOT STANDBY within the next six hours and to HOT SHUTDOWN within the following six hours.

Proposed Answer: C

Explanation:

Technical Reference: TS 3.7.5

Proposed references to be provided to applicants during examination:

Learning Objective:**Question Source:**

Bank #

CPSES
SYS.AF1.OB29 -
010

Modified

New **Question History:**Last NRC Exam **Cognitive Level:**

 Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:55.4155.432**Comments:**

SRO (ONLY) TEST QUESTION #: 93

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>2</u> | <u>2</u> |
| K/A # | <u>2.2.11</u> | |
| Importance Rating | <u>2.5</u> | <u>3.4</u> |

Proposed Question:

With regard to Temporary Modifications (TMs), select the correct statement from the following:

- A. The Plant Manager shall approve all TMs.
- B. For TMs on systems that are in the custody of Operations, the Shift Manager shall approve the TM after installation.
- C. If SORC did not review an expedited TM prior to installation, then a post-installation review of the TM shall be required.
- D. When a TM requires a 10CFR 50.59 evaluation, the SORC shall approve the TM within 30 days of installation.

Proposed Answer: A

Explanation:

Technical Reference: STA-602, Sect 6.15.6

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
ADM.XA1.OB605-
004

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

 X Memory or Fundamental Knowledge
 Comprehension or Analysis

10 CFR Part 55 Content:

55.41 10
55.43 3

Comments:

SRO (ONLY) TEST QUESTION #: 94

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|--------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>2.3.2</u> | |
| Importance Rating | <u>2.5</u> | <u>2.9</u> |

Proposed Question:

Given the following:

-A point source in the auxiliary building is generating the following radiation field:

-500 mRem/hr at two (2) feet.

-125 mRem/hr at four (4) feet.

- 32 mRem/hr at eight (8) feet.

TWO (2) options exist to complete a mandatory assignment near this radiation source:

-OPTION 1: Operator X can perform the assignment in thirty minutes working at a distance of FOUR (4) feet from the point source.

-OPTION 2: Operators Y and Z, using a special extension tool can perform the same task in 75 minutes at a distance of EIGHT (8) feet from the point source.

WHICH ONE (1) of the following choices is the preferred option to complete the assignment, per the facility ALARA plan?

- A. Option 1 as it results in the lowest total dose.
- B. Option 1 as it results in the lowest individual dose.
- C. Option 2 as it results in the lowest total dose.
- D. Option 2 as it results in the lowest individual dose.

Proposed Answer: A

Explanation:

Technical Reference: EPP-305, STA-651

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # INPO 4399 Modified
New

Question History: Last NRC Exam

Cognitive Level: Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 12
55.43 4

Comments:

SRO (ONLY) TEST QUESTION #: 95

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|--------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>3</u> | <u>3</u> |
| K/A # | <u>2.3.4</u> | |
| Importance Rating | <u>2.5</u> | <u>3.1</u> |

Proposed Question:

After fuel handling tools and equipment have contacted the refueling water they must:

- A. remain wetted or be relubricated prior to their next usage.
- B. be flushed with demineralized water to remove boric acid before their next usage.
- C. be considered as radioactively contaminated and either not be touched or protective clothing used before touching.
- D. be flushed with demineralized water to remove radioactive contamination before touching.

Proposed Answer: C

Explanation:

Technical Reference: RFO-302

Proposed references to be provided to applicants during examination:

Learning Objective:

Question Source:

Bank #

CPSES
RFO.FH5.OB100
- 008

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

X

Memory or Fundamental Knowledge

Comprehension or Analysis

10 CFR Part 55 Content:

55.41

12

55.43

4

Comments:

SRO (ONLY) TEST QUESTION #: 96

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>4</u> | <u>4</u> |
| K/A # | <u>2.4.39</u> | |
| Importance Rating | <u>3.3</u> | <u>3.1</u> |

Proposed Question:

You are a licensed Reactor Operator on dayshift, working on outage tagouts in the Work Control Center. You do not have assigned responsibilities in the Emergency Response Organization (ERO). You hear a Pulse Tone alarm. What emergency does this alarm indicate?

- A. This is the Radiation Hazard alarm.
- B. This is the Fire alarm.
- C. This is the Site Evacuation alarm.
- D. This is the Tornado Warning alarm.

Proposed Answer: C

Explanation:

Technical Reference: CPSES/EP site access general training

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # _____ Modified _____
New X

Question History: Last NRC Exam _____

Cognitive Level: X Memory or Fundamental Knowledge
_____ Comprehension or Analysis

10 CFR Part 55 Content: **55.41** 10
55.43 5

Comments:

RO/SRO TEST QUESTION #: **97**

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>4</u> | <u>4</u> |
| K/A # | <u>2.4.46</u> | |
| Importance Rating | <u>3.5</u> | <u>3.6</u> |

Proposed Question:

During refueling operations, radiation levels increase to alarm setpoint in the Spent Fuel Pool area. Which one of the choices below is a correct response to the present conditions?

- A. Close the AB 810 roll-up door
- B. Bypass and isolate the SFP demineralizers.
- C. Ensure fuel transfer car is in Containment.
- D. Stop the SFP exhaust fans.

Proposed Answer: A

Explanation:

Technical Reference: ABN-908

Proposed references to be provided to applicants during examination:

Learning Objective:**Question Source:**

Bank #

CPSES
RFO.SYE.OB201
- 003

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

Memory or Fundamental Knowledge
X Comprehension or Analysis

10 CFR Part 55 Content:

55.41

55.43

5, 7**Comments:**

SRO (ONLY) TEST QUESTION #: 98

Examination Outline Cross-reference:

| | | |
|-------------------|---------------|------------|
| Level | RO | SRO |
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>4</u> | <u>4</u> |
| K/A # | <u>2.4.47</u> | |
| Importance Rating | <u>3.4</u> | <u>3.7</u> |

Proposed Question:

Following a double-ended Steam Generator tube rupture, EOP-3.0B, "Steam Generator Tube Rupture" has been successfully completed through the completion of the RCS cooldown and depressurization, the terminating of ECCS flow and the restoration of normal charging and letdown. The Reactor Operator notes the following conditions:

- Ruptured Steam Generator Level - 60% Narrow Range and Increasing.
- Pressurizer Level - 55% and Increasing.

Which of the following describes the actions which should be taken to establish equilibrium conditions (steady Steam Generator and Pressurizer levels)?

- A. Reduce charging flow, decrease RCS pressure using Pressurizer spray.
- B. Reduce charging flow, increase RCS pressure using Pressurizer heaters.
- C. Increase charging flow, decrease RCS pressure using Pressurizer spray.
- D. Increase charging flow, increase RCS pressure using Pressurizer heaters.

Proposed Answer: A

Explanation:

Technical Reference: EOP-3.0B Step 31

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source: Bank # CPSES Modified
SK2.XG4.OB103-5
New _____

Question History: Last NRC Exam _____

Cognitive Level: _____ Memory or Fundamental Knowledge
 X Comprehension or Analysis

10 CFR Part 55 Content: 55.41 1
55.43 5

Comments:

RO/SRO TEST QUESTION #: 99

Examination Outline Cross-reference:

| Level | RO | SRO |
|-------------------|---------------|------------|
| Tier # | <u>3</u> | <u>3</u> |
| Group # | <u>4</u> | <u>4</u> |
| K/A # | <u>2.4.25</u> | |
| Importance Rating | <u>2.9</u> | <u>3.4</u> |

Proposed Question:

Mechanical Maintenance has a work package to repack the isolation valve for the Fire Hose Station on the west wall of the Main Control Room located just outside the kitchen area. What compensatory actions, if any, must be taken?

- A. Station a continuous Fire Watch in the Control Room.
- B. Place a gated wye with sufficient length of fire hose on the hose station on the east wall of the Control Room within one hour.
- C. Place a gated wye with sufficient length of fire hose on the hose station at the foot of the steps between Unit #1 Cable Spread Room and the Control Room within 48 hours.
- D. Station a Fire Watch to make hourly patrols in the Control Room .

Proposed Answer: B

Explanation:

Technical Reference: STA-738

Proposed references to be provided to applicants during examination:

Learning Objective: _____

Question Source:

Bank #

CPSES
SYS.FP1.OB501 -
 006

Modified

New

Question History:

Last NRC Exam

Cognitive Level:

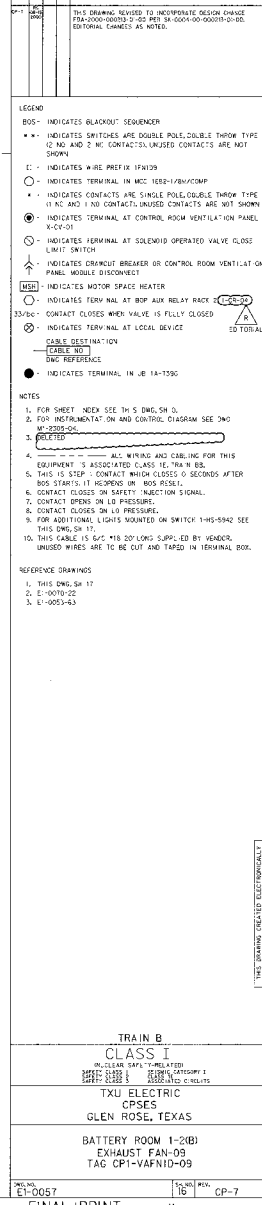
 Memory or Fundamental Knowledge
 X Comprehension or Analysis

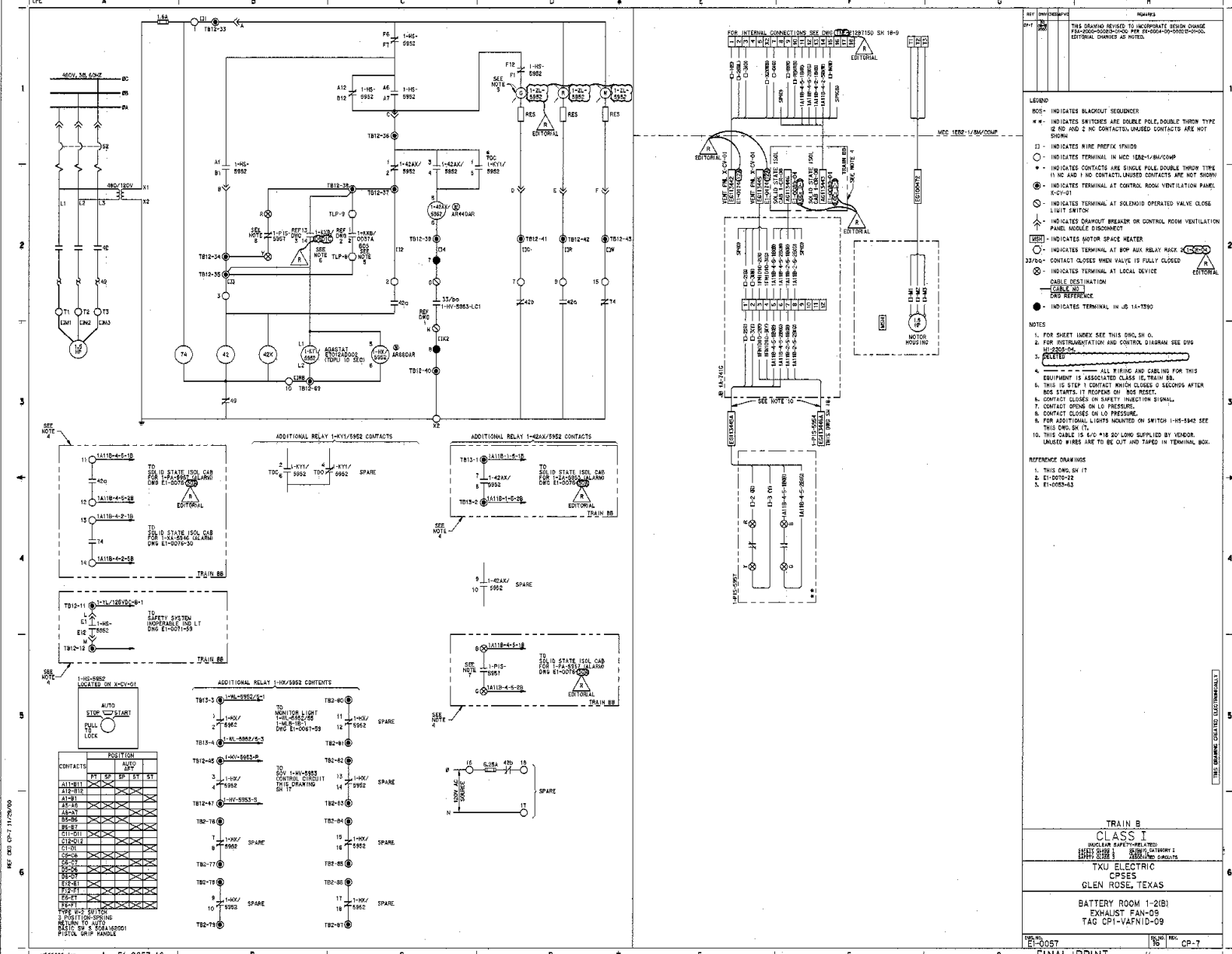
10 CFR Part 55 Content:

55.41 10
55.43 5

Comments:

SRO (ONLY) TEST QUESTION #: 100





| | | | | | | | | | | |
|-------------|---|------------|---|---|---|---|---|---|---|---|
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| FINAL PRINT | | | | | | | | | | |

3.3 INSTRUMENTATION

3.3.4 Remote Shutdown System

LCO 3.3.4 The Remote Shutdown System Functions in **Table 3.3.4-1** and the required hot shutdown panel (HSP) controls shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3

ACTIONS

NOTES

1. **LCO 3.0.4** is not applicable.
2. Separate Condition entry is allowed for each Function and required HSP control.

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|---|--------------------------------|
| <p>A. One or more required Functions inoperable.</p> <p><u>OR</u></p> <p>One or more required HSP controls inoperable.</p> | <p>A.1 Restore required Function and required HSP controls to OPERABLE status.</p> | <p>30 days</p> |
| <p>B. Required Action and associated Completion Time not met.</p> | <p>B.1 Be in MODE 3.</p> <p>AND</p> <p>B.2 Be in MODE 4.</p> | <p>6 hours</p> <p>12 hours</p> |

SURVEILLANCE REQUIREMENTS

| SURVEILLANCE | FREQUENCY |
|--|-----------|
| SR 3.3.4.1 Perform CHANNEL CHECK for each required instrumentation channel that is normally energized. | 31 days |
| SR 3.3.4.2 Verify each required HSP power and control circuit and transfer switch is capable of performing the intended function. | 18 months |
| <div> SR 3.3.4.3 -----NOTE----- Neutron detectors are excluded from CHANNEL CALIBRATION. ----- Perform CHANNEL CALIBRATION for each required instrumentation channel. </div> | 18 months |

Table 3.3.4-1 (page 1 of 1)
Remote Shutdown System Functions

| FUNCTION | REQUIRED CHANNELS |
|---|-------------------|
| 1. Neutron Flux Monitors | 1 |
| 2. Pressurizer Pressure | 1 |
| 3. RCS Hot Leg Temperature | 1 per loop |
| 4. RCS Cold Leg Temperature | 1 per loop |
| 5. Condensate Storage Tank Level | 1 |
| 6. SG Pressure | 1 per SG |
| 7. SG Level | 1 per SG |
| 8. AFW Flow | 1 per SG |
| 9. Pressurizer Level | 1 |
| 10. Charging Pump to CVCS Charging and RCP Seals Flow Indication | 1 |