

SRO Initial Written Examination

1 1.00

Due to a loss of all secondary heat sink FR-H.1, "Loss of Secondary Heat Sink," has been implemented. The conditions for establishing Bleed and Feed currently exist. SI has been actuated and a feed path verified. In an attempt to establish a bleed path, only one pressurizer PORV can be opened.

What action is required?

- A. Go to FR-C.1, "Response to Inadequate Core Cooling."
- B. Open the reactor vessel head vents (and depressurize at least one SG.)
- C. Go to FR-Z.1, "Response to High Containment Pressure"
- D. Reduce SI flow.

Answer: B

Reference Id:	B-0001 Exam Bank B#1
Must appear:	No
Status:	Active
User Text:	3826.130494
User Number 1:	3.60
User Number 2:	4.30
Difficulty:	2.00
Time to complete:	3
Topic:	FR-H.1, Bleed and Feed, Action if only one PORV open.
Cross Reference:	FR-H.1, STEP 18 (RNO), RE

2 1.00

A reactor trip and SI have occurred as a result of a large break LOCA. E-1.3, "Transfer to Cold Leg Recirculation," has just been completed.

The STA reports the following conditions associated with the Containment critical safety function:

- Containment pressure 2.0 PSIG

- Containment sump level 98 ft
- Containment radiation 1400 R/Hr

Which of the following is an immediate containment concern?

- A. Containment structural integrity.
- B. Erroneous instrumentation readings.
- C. Inadequate suction to the RHR pumps.
- D. Flooding vital equipment in containment.

Answer: D

Reference Id: B-0002 Exam Bank B #2
 Must appear: No
 Status: Active
 User Text: 6819.120004 KA 000069EA2.1(3.8)
 User Number 1: 3.10
 User Number 2: 4.10
 Difficulty: 3.00
 Time to complete: 3
 Topic: Containment Flooding
 Cross Reference: F-0.5, MAGENTA PATH
 Comment: REF: Containment CSF Status Tree
 VALIDATION DATE: 2/6/91
 UPDATED 2/10/93
 updated 2/21/95 by dlh4
 Checked OK, 4/28/96, GES
 updated 11/15/96 MAP2
 Taken to Revise for "B" exam bank work. 1/28/97 jpsj
 Checked. Minor editorial changes. 1/29/97 wkd2
 Pedigree and ratings checked OK 2/1/97 JLE7
 Validated and taken to review. 2/7/97 jpsj
 Taken to ACTIVE after review. 2/8/97 jmh1
 Reviewed against rev 10 (TIP 8812), no impact. 4/17/97 jpsj
 Checked as part of question review for biennial exam 12/22/98 MTC6

3 1.00

A small break LOCA has occurred and E-1.2, "Post LOCA Cooldown and Depressurization," is in progress.

The following plant conditions exist:

- RCS pressure is 1500 psig
- All 4 RCPs are running
- PZR level is 5%
- Letdown is NOT in service

The crew is ready to commence step 13, "Depressurize RCS to Refill PZR."
What impact will performing this step have on the plant?

- A. Safety Injection flow will INCREASE.
- B. Aux spray ΔT may be exceeded.
- C. PRT pressure, level and temperature will INCREASE.
- D. Voids in the RCS may collapse.

Answer: A

Reference Id:	B-0007 Exam Bank B #7
Must appear:	No
Status:	Active
User Text:	5451.120004
User Number 1:	3.60
User Number 2:	4.60
Difficulty:	4.00
Time to complete:	3
Topic:	E-1.2, SI and break flow as RCS depressurizes
Cross Reference:	E-1.2, STEP 13 (BKGD), RE

4

1.00

A large break LOCA has occurred. ECA-1.1, "Loss of Emergency Coolant Recirculation," was entered from E-1, "Loss of Reactor or Secondary Coolant," when it was noted that BOTH Residual Heat Removal (RHR) pumps could NOT be started. While the crew is performing ECA-1.1, Step 11, "Establish One Train of SI Flow," power is restored to RHR pump 1-1.

What action should be taken next?

- A. Continue ECA-1.1, Step 11, "Establish One Train of SI Flow."
- B. Return to E-1, Step 11.a, "Verify Cold Leg Recirculation capability."
- C. Go to E-1.3, "Transfer to Cold Leg Recirculation."

- D. Return to ECA-1.1, Step 1, "TRY to Restore Emergency Coolant Recirculation Equipment."

Answer: D

Reference Id: B-0031 Exam Bank B Ques #26
Must appear: No
Status: Active
User Text: 5435.130494
User Number 1: 3.40
User Number 2: 4.00
Difficulty: 2.00
Time to complete: 3
Topic: ECA-1.1, Recovery of RHR pump
Cross Reference: ECA-1.1, STEP 1 (CA)
Comment: REF: Loss of Emergency Coolant Recirculation
VALIDATION DATE: 1/4/91
UPDATED 2/10/93
updated 2/21/95 by dlh4
Checked OK, 4/26/96, GES
revised 11/15/96, RALZ
revised 11/20/96, MAP2. Requires validation.
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Pedigree and ratings checked OK 2/1/97 JLE7
Revised question and replaced one distractor. Validation required. 2/7/97 wkd2
Validated and ready for review. 2/7/97 jpsj
Taken to review. 2/7/97 jpsj
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6

5

1.00

An ATWS has occurred, Reactor is at 3% Power, and the crew has progressed to Step 7 of FR-S.1, "Response to Nuclear Power Generation / ATWS", when a safety injection occurs.

What action(s) should be taken?

- A. Verify Steps 1 to 11 of E-0, Reactor Trip or Safety Injection.
- B. Implement E-0, Reactor Trip or Safety Injection.
- C. Continue in FR-S.1, and do NOT implement SI actions.
- D. Restart the MDAFW pumps.

Answer: A

Reference Id: B-0043 Exam Bank B #37
Must appear: No
Status: Active
User Text: 5435.130494
User Number 1: 3.40
User Number 2: 4.00
Difficulty: 2.00
Time to complete: 3
Topic: FR-S.1, SI during ATWS
Cross Reference: FR-S.1, STEP 7 (CAUT.)
Comment: Response to Nuclear Power Generation / ATWS
REF: FR-S.1, caution step #7
VALIDATION DATE: 1/4/91
UPDATED 2/10/93
updated 2/21/95 by dlh4
Checked OK, 4/28/96, GES
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Improved one distractor. No further validation required.
Checked 1/29/97 jpsj
Pedigree and ratings checked OK 2/1/97 JLE7
Validated and took to REVIEW status 2/4/97, bem3.
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6
Changed reference to step 7 caution. 1/11/99 MAP2

6 1.00

A reactor trip and safety injection have just occurred from 100% power, and E-0, "Reactor Trip or Safety Injection," has been entered. When DRPI indications are checked, two rods indicate FULLY WITHDRAWN and all other rods indicate FULLY INSERTED.

With current plant conditions, what action(s), if any, should be performed in response to the control rods while in E-0?

- A. Go to EP FR-S.1, "Response to Nuclear Power Generation/ATWS."
- B. Implement AP-6, "Emergency Boration."
- C. No additional actions are required while in E-0.
- D. Implement STP R-19, "Shutdown Margin Calculation."

Answer: C

Reference Id: B-0106 Exam Bank B #78
Must appear: No
Status: Active
User Text: 7920.130494
User Number 1: 3.00
User Number 2: 3.40
Difficulty: 2.00
Time to complete: 2
Topic: EP E-0, Response to two stuck rods
Cross Reference: E-0, STEP 1
Comment: REF: Reactor Trip or Safety Injection

VALIDATION DATE: 1/11/91

UPDATED 2/11/93

updated 2/21/95 by jfb1

checked IAW new EOP changes, no rev. needed, 2/14/96, rjg2.

Updated on 7-2-96 to clarify current procedure in effect,acd1.

reviewed per tip 8145, no change required rjb2 12/10/96

Taken to Revise for "B" exam bank work. 1/28/97 jpsj

Pedigree and ratings check OK 2/1/97 JLE7

Revised question. Validation required. 3/2/97 wkd2

Validated. Taken to Review status. 2/5/97 wkd2

Taken to ACTIVE after review. 2/8/97 jmh1

Reviewed against rev 20 (TIP 8948), no impact. 4/16/97 jpsj

Checked as part of question review for biennial exam 12/22/98 MTC6

7

1.00

Technical Maintenance causes a spurious reactor trip from 100% power. SI has NOT actuated and is NOT required. E-0, "Reactor trip or Safety Injection," has been performed, and transition to the next appropriate procedure has been made. The following conditions currently exist:

- Tavg is 531°F and DECREASING
- All steam dumps are CLOSED
- MSRs are RESET
- Narrow Range levels in all S/Gs are 8% and STABLE
- Total AFW flow has been throttled to 200 GPM to maintain S/G levels at 8%
- S/G pressures are 950 psig and DECREASING slowly
- MSIVs have been closed by the operators

What action should be performed?

- A. Initiate emergency boration.

- B. Manually actuate Safety Injection.
- C. Raise TOTAL AFW flow to at least 435 GPM.
- D. Adjust 10% dump setpoint to current SG pressure.

Answer: A

Reference Id: B-0129 Exam Bank B #89

Must appear: No

Status: Active

User Text: 4149.020045

User Number 1: 3.50

User Number 2: 4.30

Difficulty: 4.00

Time to complete: 3

Topic: EP E-0.1, actions for cooldown after Rx Trip

Cross Reference: E-0.1, STEP 1 RNO

Comment: REF: Reactor Trip Response

VALIDATION DATE: 2/6/91

updated 2/22/95 by jfb1

I&C to Technical Maintenance (in stem). Changed to level 4, since this fits the Analysis (data interpreted to follow procedure), 4/29/96, GES

Revised to EOP E-0.1 parameters (7-9-96) acd1

Revised to eliminate all possible distractors, 10/2/96 rac1

Added Rev 17 to reference. No other changes. 10/29/96 map2

Taken to Revise for "B" exam bank work. 1/28/97 jpsj

Pedigree and ratings check OK 2/1/97 JLE7

Revised question and replaced two distractors. Validation required. 2/7/97 wkd2

Validated and taken to review. 2/7/97 jpsj

Taken to ACTIVE after review. 2/8/97 jmh1

Reviewed against rev 18 (TIP 8949), no impact. 4/17/97 jpsj

Reviewed against rev 19 (TIP 94360, no impact. 10/16/97 map2

Checked as part of question review for biennial exam 12/22/98 MTC6

8 1.00

A loss of all vital AC power has occurred. The operators are currently depressurizing intact steam generators to reduce RCS pressure to inject the accumulators per ECA-0.0, "Loss of All Vital AC Power."

The following conditions exist:

- o Containment pressure is 4 psig and INCREASING

- o AFW flow is 220 gpm per S/G from the TDAFP
- o S/G NR levels are as follows: 1-1 & 1-4 are 14%; 1-2 & 1-3 are 10%; all levels are DECREASING slowly
- o Pzr level is 8% and DECREASING rapidly
- o RCS pressure is 1450 psig and DECREASING rapidly

Based on the above conditions, the operators should:

- A. Continue depressurization at MAXIMUM rate while maintaining MAXIMUM AFW flow to ALL S/Gs.
- B. Stop depressurization until greater than 16% NR level is restored in at least ONE S/G.
- C. Stop depressurization until pressurizer level is greater than 36%.
- D. Continue depressurization at REDUCED rate while maintaining MAXIMUM AFW flow to ALL S/Gs.

Answer: B

Reference Id: B-0175 Exam Bank B #114
 Must appear: No
 Status: Active
 User Text: 9596.13ALLE KA 000055EK3.02 (4.6)
 User Number 1: 3.40
 User Number 2: 4.40
 Difficulty: 4.00
 Time to complete: 2
 Topic: ECA-0.0, Actions required with all SG levels < 16% NR
 Cross Reference: ECA-0.0, STEP 16(CAUT)
 Comment: Loss of All Vital AC Power
 VALIDATION DATE: 1/18/91
 updated 2/22/95 by jfb1
 20% to 16% for adv. changed stem to be < 16%. Analysis diff.; from level 2 to 4. 5/1/96, GES
 Changed reference to ECA-0.0, step 17 per rev 10, 7/9/96, acd1.
 TIP 8179 has no effect on question 1/11/97 RJB2
 Taken to Revise for "B" exam bank work. 1/28/97 jpsj
 Pedigree and ratings check OK 2/1/97 JLE7
 Replaced one distractor so that two "stop depress until" answers are available. Validated and taken to Review. 2/5/97 jpsj
 Taken to ACTIVE after review. 2/8/97 jmh1
 Reviewed against rev 11 (TIP 8950), no impact. 4/18/97 jpsj
 Checked as part of question review for biennial exam 12/22/98 MTC6

Unit 1 Component Cooling Water System has the following configuration:

- CCW Pump 1-1 operating
- CCW Heat Exchanger 1-1 in service
- CCW Pump 1-3 operating
- CCW Heat Exchanger 1-2 Outlet Valve FCV 431 tagged out for repair of motor operator
- CCW Pump 1-2 tagged out for pump seal repair

What is the maximum time the plant can operate with this configuration before power reduction is required (assuming the above conditions just occurred)?

- A. 1 hour.
- B. 6 hours.
- C. 24 hours.
- D. 72 hours.

Answer: D

Reference Id:	B-0377 Exam Bank B #208
Must appear:	No
Status:	Active
User Text:	9697.13ALLN KA 000026G2.12(4.0)
User Number 1:	3.30
User Number 2:	4.10
Difficulty:	2.00
Time to complete:	4
Topic:	CCW LCO & PSRC Interpretation
Cross Reference:	TS 3.7.3

Comment: Plant Systems - CCW
REF: T. S. 3.7.3 and the PRSC Interpretation 89-01
VALIDATION DATE: 1/25/91
updated 2/24/95 by jfb1
Checked OK, 5/29/96, GES
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Checked OK 2/1/97, no changes, GRH1
Pedigree and ratings checked OK 2/1/97 JLE7
Validated and taken to Review. 2/4/97 jpsj
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6

10

1.00

For a main steamline break, which of the following would most challenge the reactor shutdown margin, assuming the shutdown margin was at its minimum acceptable value for that condition?

- A. EOL, with the reactor at 100% power.
- B. BOL, with the reactor at 100% power.
- C. EOL, with Tavg at 200°F (Mode 5).
- D. EOL, with the reactor at hot zero power.

Answer: D

Reference Id: B-0384 Exam Bank B #212
Must appear: No
Status: Active
User Text: 9697.13ALLN KA 000040EK3.1(3.9)
User Number 1: 3.30
User Number 2: 4.10
Difficulty: 4.00
Time to complete: 4
Topic: Conditions that affect Shutdown Margin
Cross Reference: TS 3.1.1 BASES
Comment: Tech Spec Bases
SDM TS 3.1.1 Bases, ITS Applicable Safety Analysis
VALIDATION DATE:

MODIFIED QUESTION; REVALIDATE
UPDATE LG/OBJ
VALIDATION DATE: 4/5/95 DLH4 (no changes)
Checked OK, 5/29/96, GES
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Checked OK 2/1/97, no changes, GRH1
Pedigree and ratings checked OK 2/1/97 JLE7
Validated and taken to Review. 2/4/97 jpsj
Non-intent changes to stem/answer/distractors. 2/5/97 jpsj
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6

11

1.00

You are performing ECA-0.0, "Loss of All Vital AC Power,"
Step 16, "Depressurize Intact S/Gs to Reduce RCS Pressure to Inject
Accumulators."

The following conditions currently exist:

- Max rate SG depressurization is in progress
- All S/G pressures are 265 PSIG
- All S/G NR levels are 7%
- All RCS cold leg temperatures are 220°F
- Containment pressure is 2.5 PSIG

Based on the above conditions, you should

- A. continue depressurization to 240 PSIG in the S/Gs; accumulator water will be injected, but NOT nitrogen.
- B. stop depressurization; a secondary heat sink concern exists.
- C. stop depressurization; a PTS concern exists.
- D. continue depressurization; pressurizer level is NOT a concern.

Answer: C

Reference Id: B-0412 Exam Bank B #228
Must appear: No
Status: Active
User Text: 5722.130494

User Number 1: 3.40
 User Number 2: 3.90
 Difficulty: 5.00
 Time to complete: 3
 Topic: ECA-0.0, Actions due to PTS concern
 Cross Reference: ECA-0.0, STEP 16C
 Comment: Loss of All Vital AC Power
 updated 2/28/95 by jfb1
 VALIDATION DATE: 4/5/95 DLH4 (no changes)
 Changed NR level to 7% and 260 psig to 240 psig, 5/2/96, GES
 TIP 8179 has no effect on question 1/11/97 RJB2
 Taken to Revise for "B" exam bank work. 1/28/97 jpsj
 Pedigree and ratings checked OK 2/1/97 JLE7
 Changes to stem and distractor. 2/3/97 jblackwell
 Validated 2/3/97 jpsj
 Validated and taken to Review. 2/4/97 jpsj
 Taken to ACTIVE after review. 2/8/97 jmh1
 Reviewed against rev 11 (TIP 8950), changed step number and text in stem, no
 significant change, no val. required. 4/18/97 jpsj
 Checked as part of question review for biennial exam 12/22/98 MTC6

12

1.00

A SGTR has occurred.

The following conditions exist:

- RCPs were secured due to RCP Trip Criteria
- Ruptured S/G has been IDENTIFIED and ISOLATED
- RCS cooldown to target temperature is COMPLETE
- RCS depressurization is COMPLETE
- Normal charging and letdown are IN SERVICE
- Pressurizer Level is 35%
- RVLIS Upper Range is 100%
- RCS Subcooling (YI-31) is 43 °F
- Ruptured S/G level is 56% NR and STABLE

What action(s) is(are) required regarding RCP status?

- A. Do NOT implement "APPENDIX B" to attempt RCP restart until pressurizer level has been increased to greater than 57%.
- B. Start one RCP, if "APPENDIX B" conditions are met.
- C. Start all RCPs that meet "APPENDIX-B" conditions for start.
- D. An RCP can NOT be started, manually close the Pzr spray valves and verify Natural Circulation.

Answer: B

Reference Id: B-0578 Exam Bank B #324
Must appear: No
Status: Active
User Text: 5712.040034
User Number 1: 3.40
User Number 2: 4.00
Difficulty: 4.00
Time to complete: 3
Topic: E-3, RESTARTING RCP AFTER SI TERMINATION
Cross Reference: E-3, STEP 43.A (RNO)
Comment: Steam Generator Tube Rupture
VALIDATION DATE:
Rewrote 1/19/95; needs revalidated.
updated 3/2/95 by jfb1
VALIDATION DATE: 4/5/95 DLH4 (no changes)
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Pedigree and ratings checked OK 2/1/97 JLE7
Changed one distractor and the stem question 2/3/97 mrn7 - may need revalidation
Validated and taken to Review. 2/4/97 jpsj
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6

Because of a Control Room Evacuation, Hot Standby is being established from outside the control room in accordance with OP AP-8A.

4KV vital busses F, G and H are noted to be DE-ENERGIZED.

The correct response is to:

- A. Refer to Appendix B, and go to ECA-0.0.
- B. Verify Appendix B is in progress, and refer to ECA-0.0.
- C. Refer to Appendix B, while continuing with AP-8A.
- D. Go to ECA-0.0, and refer to OP AP-8A.

Answer: B

Reference Id: B-0611 Exam Bank B #349
Must appear: No
Status: Active
User Text: 7814.13ALLE KA 000068AK3.18(4.5)
User Number 1: 3.30
User Number 2: 4.30
Difficulty: 2.00
Time to complete: 4
Topic: Loss of vital power during Control Room Evac
Cross Reference: OP AP-8A, STEP 13 RNO
Comment: Control Room Evacuation
10/27/94
updated 3/3/95 by jfb1
Validated 3/30/95 JOD
Checked OK 5/6/96, GES
Changed to refer to ECA-0.3. App. B no longer refers to ECA-0.0, 11/4/96, GES1
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Pedigree and ratings checked OK 2/1/97 JLE7n
Changed stem, distractors, and answer. VALIDATE 2/3/97 jpsj
Validated and taken to review. 2/4/97 by jdk5. Reworded answer and distractors to
reference "ECA 0.0" instead of "ECA O.3"
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6

Due to a problem with kelp at the Intake Structure, Condenser pressure has deteriorated to 4.2" Hg. absolute. Turbine load has been reduced to 300 MWe. Conditions have been stable for 5 minutes. Considering the foldout page for OP AP-7, the operating crew should take the following actions:

- A. Reduce load as necessary to restore Condenser pressure to less than 3.5" Hg. absolute
- B. Trip the reactor
- C. Valve in additional air ejectors
- D. Raise turbine load to a value greater than 30%

Answer: B

Reference Id: B-0655 Exam Bank B #365
Must appear: No
Status: Active
User Text: 8270.130743 KA 000051AA2.02(4.1)
User Number 1: 2.90
User Number 2: 3.30
Difficulty: 2.00
Time to complete: 3
Topic: Turbine trip requirements at low power/low vacuum
Cross Reference: OP AP-7, STEP 1
Comment: Degraded Condenser
VALIDATION DATE: 4/4/95 DLH4 (no changes)
Checked OK, 6/6/96, GES
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Pedigree and ratings checked OK 2/1/97 JLE7
Checked on 2/3/97 by jdk5. Changed the answer and distractors 1&2.
Validated and taken to review. 2/7/97 jpsj
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6

What is the significance of not allowing RVLIS to fall below 76% full range when performing a natural circulation cooldown with voids in the reactor vessel head?

- A. Ensures that upper head voiding does not result in the upper range RVLIS from reading off scale low
- B. Ensures that voids don't enter the hot leg and be swept to the SG U-tubes where they could inhibit natural circulation flow
- C. Ensures that excessive upper head voiding does not cause the Pzr level to go solid
- D. Ensures that the voids don't enter the cold legs where they could enter the reactor causing hot spots in the core

Answer: B

Reference Id: B-0844 Exam Bank B #380
 Must appear: No
 Status: Active
 User Text: 5812.040024
 User Number 1: 3.00
 User Number 2: 4.00
 Difficulty: 2.00
 Time to complete: 2
 Topic: Reason for 76% RVLIS limitation
 Cross Reference: R961C8, LPE-0.2
 Comment: Validated for L981 LOPCWE against E0.3, rev 10. MAP2 12/8/98.
 Converted from R-series. 01/20/97 jpsj (R-0661)
 Checked as part of question review for biennial exam 12/22/98 MTC6

16

1.00

During a loss of all vital AC event, the safeguards loads are isolated from the vital busses.

How are the Containment Fan Cooling Units (CFCUs) prevented from starting and loading when a vital bus is eventually energized?

- A. Control power fuses are pulled.
- B. Control switches are placed in stop.

- C. CFCU breakers are locally opened.
- D. DC control power switches are opened.

Answer: C

Reference Id: B-0177 Exam Bank B #116
 Must appear: No
 Status: Active
 User Text: 6324.120004 KA 022K2.01(3.1)
 User Number 1: 3.30
 User Number 2: 4.40
 Difficulty: 2.00
 Time to complete: 3
 Topic: ECA-0.0, actions to prevent CFCU restart
 Cross Reference: ECA-0.0, STEP 7
 Comment: Loss of All Vital AC Power
 VALIDATION DATE: 1/25/91
 updated 2/22/95 by jfb1
 Minor stem change. Checked OK, 5/1/96, GES
 TIP 8179 has no effect on question 1/11/97 RJB2
 Taken to Revise for "B" exam bank work. 1/28/97 jpsj
 Minor revisions to stem. 1/31/97 jpsj
 Pedigree and ratings check OK 2/1/97 JLE7
 Memory. Taken to Inactive. Part "A" type. 2/7/97 jpsj
 Checked as part of question review for biennial exam 12/22/98 MTC6

17

1.00

The Auxiliary Feedwater Pumps are supplying the steam generators following a reactor trip. The Condensate Storage Tank level decreases to 10% and an alternate source of feedwater to the Auxiliary Feedwater System is necessary.

Which list has the sources of water in the preferred order of use?

- A. Condensate Storage Tank from Condenser Hotwell,
 Makeup Water Transfer Tank,
 Raw Water Reservoir,
 Fire Water Storage Tank
- B. Raw Water Reservoir
 Fire Water Storage Tank

Condensate Storage Tank from Condenser Hotwell
Makeup Water Transfer Tank

- C. Fire Water Storage Tank,
Condensate Storage Tank from Condenser Hotwell,
Makeup Water Transfer Tank,
Raw Water Reservoir
- D. Raw Water Reservoir,
Condensate Storage Tank from Condenser Hotwell,
Fire Water Storage Tank,
Makeup Water Transfer Tank

Answer: B

Reference Id: B-0237 Exam Bank B #145
Must appear: No
Status: Active
User Text: 8402.130743
User Number 1: 3.30
User Number 2: 3.80
Difficulty: 2.00
Time to complete: 4
Topic: Alternate AFW supplies
Cross Reference: OP D-1:V
Comment: Auxiliary Feedwater System- Alternate Auxiliary Feedwater
Supplies

VALIDATION DATE: 1/25/91

updated 2/23/95 by jfb1

Checked OK, 5/7/96, GES

Taken to Revise for "B" exam bank work. 1/28/97 jpsj

Pedigree and ratings check OK 2/1/97 JLE7

Checked on 2/1/97 by jdk5. Minor changes only.

Validated and taken to review. 2/7/97 jpsj

Taken to ACTIVE after review. 2/8/97 jmh1

Checked as part of question review for biennial exam 12/22/98 MTC6

Steam Trap 104 on the Turbine Driven Auxiliary Feed Pump (TDAFP) is isolated due to excessive steam trap blow-by.

What action is required to maintain the TDAFP OPERABLE?

- A. Open the Bypass Orifice Isolation Valve.
- B. Check the remaining steam trap drain lines for condensate removal flow at least once per shift.
- C. Open the upstream drain valve every eight hours to ensure adequate condensate removal.
- D. Run the TDAFP at least once every eight hours to ensure adequate condensate removal.

Answer: A

Reference Id: B-0294 Exam Bank B #162
Must appear: No
Status: Active
User Text: 8418.050613
User Number 1: 3.10
User Number 2: 3.90
Difficulty: 2.00
Time to complete: 5
Topic: Actions for TDAFW Pp steam trap excess blow-by
Cross Reference: T.S. 3.7.1.2
Comment: Plant Systems - AFW
2nd REF: PSRC Interpretation 89-04; OP D-1.1
DCP-043833/044833
VALIDATION DATE: 3/17/91
updated 2/24/95 by jfb1
Checked OK, 5/9/96, GES
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Pedigree and ratings check OK 2/1/97 JLE7
Change distractor, minor changes to stem and answer. 2/3/97 j blackwell
Validated and taken to review. 2/4/97 by jdk5.
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6

Main Feed Pump 1-1 does NOT trip after a loss of vital DC bus 1-2. Why is it necessary to run the pump speed to minimum with the Lovejoy controller and then locally trip the pump? To prevent:

- A. overpressurizing the main condenser.
- B. running the pump without lubricating oil.
- C. overspeeding the pump.
- D. overpressurizing the pump discharge.

Answer: D

Reference Id: B-0354 Exam Bank B #199
Must appear: No
Status: Active
User Text: 8283.050593 KA 059A1.07(2.6)
User Number 1: 2.50
User Number 2: 3.10
Difficulty: 2.00
Time to complete: 3
Topic: Main feed pump trip after loss of vital bus
Cross Reference: AP-23, CAUTION BEFORE STE
Comment: Loss of Vital DC Bus
VALIDATION DATE: 1/25/91
updated 2/24/95 by jfb1
Checked OK, 5/20/96, GES
Tip 8575 has no effect on question 12/12/96 RJB2
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Pedigree and ratings checked OK 2/1/97 JLE7
Checked on 2/3/97 by jdk5. Minor changes only.
Validated and taken to review. 2/6/97 jpsj
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6
Changed difficulty for a 3 to 2 per biennial exam review. jdk5

Unit 1 is currently in Mode 3, Hot Standby, when Steam Generator Level Channel LT-527 is determined to be INOPERABLE. A Power increase to Mode 2 is currently in progress.

What action(s), if any, should be taken?

- A. The channel must be placed in the tripped condition within 1 hour for the startup to proceed.
- B. The channel must be placed in the tripped condition within 6 hours, and startup to Mode 2 can continue.
- C. A mode change from Mode 3 to Mode 2 can NOT be performed until the channel is restored to operable status.
- D. NO action is required until Mode 2 is achieved.

Answer: B

Reference Id: B-0395 Exam Bank B #219
Must appear: No
Status: Active
User Text: 9529.13ALLN
User Number 1: 3.20
User Number 2: 4.20
Difficulty: 2.00
Time to complete: 2
Topic: Rx Trip & ESF Actuation Instrumentation
Cross Reference: TS 3.3.1 & 3.3.2
Comment: Tech Specs
REF: TS 3.1.1 action 6, TS 3.3.2 action 20
VALIDATION DATE: 1/25/91

Modified Qusetion; revalidate
Validated 3/30/95 JOD
VALIDATION DATE: 4/5/95 DLH4 (no changes)
Checked OK, 5/29/96, GES
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Checked OK 2/1/97, no changes, GRH1
Pedigree and ratings checked OK 2/1/97 JLE7
Validated and taken to Review. 2/4/97 jpsj
Non-intent changes made to answer and distractor. 2/5 jpsj
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6

*HNUM 30128 (Do NOT change If < 9,000,000)

*ANUM 29790

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1991/01/28

*FAC 483 Callaway

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 006030K6.10(2.8) NEW

*QUESTION

In addition to a Phase A isolation, when a SIS is initiated, the following CVCS pumps and valves will:

- A. Both centrifugal pumps start and SI-8803A/B close.
- B. Both centrifugal and the PDP pumps start and SI-8805A/B open.
- C. Both centrifugal pumps start and LCV-112B/C close.
- D. Both centrifugal and the PDP pumps start and CVCS 8107/8108 close.

*ANSWER

C.

*REFERENCE

STG-B1A CVCS SYSTEM,

A Loss of Coolant Accident results in the operators transitioning from E-0 to E-1, "Loss of Reactor or Secondary Coolant."

The following conditions exist:

Containment Pressure is 7 psig

RCS Pressure is 1290 psig

RCS Temperature is 540 F

All ECCS pumps are running

What is the basis for stopping all RCPs based on these conditions?

- A. The RCPs are NOT designed to operate during adverse containment conditions.
- B. To reduce the heat input to the RCS from the RCPs during the loss of coolant accident.
- C. The continued operation of RCPs during certain SBLOCA events would cause deeper and longer core uncover.
- D. Operation of the RCPs with 2 phase flow will damage the RCPs because of excessive vibration.

Answer: C

Reference Id: B-0472 Exam Bank B #250
Must appear: No
Status: Active
User Text: 6117.040034 KA003K5.05(3.0)
User Number 1: 3.10
User Number 2: 4.00
Difficulty: 5.00
Time to complete: 2
Topic: REASON FOR TRIPPING RCPs DURING LOCA
Cross Reference: E-1, STEP 1
Comment: E-1 BACKGROUND DOCUMENT
VALIDATION DATE: LR932 10/15/93
updated 2/28/95 by jfb1
VALIDATED 3/30/95 JOD
Evaluated as a "Memory" type question; Must be revised to a higher cognitive level.
9/1/95 JOD
Complete rewrite, checked per new EOP, 2/17/96, rjg2.
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Pedigree and ratings checked OK 2/1/97 JLE7
Reviewed 2/1/97, jpl1, minor associated info changes
Validated and taken to Review. 2/4/97 jpsj
Taken to ACTIVE after review. 2/8/97 jmh1
Reviewed against rev 14 (TIP 8807), no impact. 4/16/97 jpsj
Checked as part of question review for biennial exam 12/22/98 MTC6

Following a steamline break and Containment Spray actuation, containment pressure is 24 psig and containment radiation levels are normal.

Which of the following actions should be performed?

- A. Reset the containment spray signal and then secure the containment spray pumps and shut the spray additive tank outlet valves.
- B. Allow containment pressure to decrease below 20 psig and then reset containment spray, stop both spray pumps, shut the containment spray header stop valves, and shut the spray additive tank outlet valves.
- C. Allow containment pressure to decrease below 20 psig and then reset the containment spray signal after the spray time of two hours is met.
- D. Transition to FR-Z.1,"Response to High Containment Pressure"

Answer: B

Reference Id:	B-0476 Exam Bank B #254
Must appear:	No
Status:	Active
User Text:	6048.060264
User Number 1:	3.10
User Number 2:	3.40
Difficulty:	2.00
Time to complete:	3
Topic:	REQUIRED ACTIONS FOR CS BASED ON CONTAINMENT PRESS
Cross Reference:	E-1, STEP 5

Comment: LOSS OF REACTOR OR SECONDARY COOLANT

VALIDATION DATE: LR932 10/15/93

updated 2/28/95 by jfb1

Minor stem change, Checked OK, 5/2/96, GES

Revised to E-1 rev 13; acd1 7-9-96.

Taken to Revise for "B" exam bank work. 1/28/97 jpsj

Pedigree and ratings checked OK 2/1/97 JLE7

reviewed 2/1/97, jpl1, made minor changes to assoc. info

Validated and taken to Review. 2/4/97 jpsj

Taken to ACTIVE after review. 2/8/97 jmh1

Reviewed against rev 14 (TIP 8807), no impact. 4/16/97 jpsj

Checked as part of question review for biennial exam 12/22/98 MTC6

24

*QNUM 10997

*HNUM 30915 (Do NOT change If < 9,000,000)

*ANUM 10997

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1991/04/22

*FAC 482 Wolf Creek

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 006000K2.02(2.9) NEW

*QUESTION

The cold leg accumulator isolation valves (8808's) are:

- a. containment isolation valves and deenergized while at 100% power.
- b. containment isolation valves and fail closed on loss of power.
- c. NOT containment isolation valves and fail open on loss of power.
- d. NOT containment isolation valves and deenergized while at 100% power.

*ANSWER

d.

*REFERENCE

STG B3

25

*QNUM 35149
*HNUM 35909 (Do NOT change If < 9,000,000)
*ANUM 35159
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1993/03/15
*FAC 482 Wolf Creek
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 012000A206 NEW
*QUESTION

Reactor startup is in progress. Reactor power is 15%. Power range channel NI41 fails downscale.

IDENTIFY the response to this failure.

- a. If power were increased to 20%, C-1 would fail to operate due to one of its inputs failed downscale.
- b. Intermediate range trips would be reinstated, if previously blocked, due to the downscale failure of the power range.
- c. Intermediate range trips would be able to be blocked even with the failed power range.
- d. If not blocked, the trip at 25% power would fail to operate due to the failed instrument.

*ANSWER

c.

*REFERENCE

STG B-6a, Reactor Protection System

[3.2/4.7]

26

*QNUM 43658
*HNUM 44994 (Do NOT change If < 9,000,000)
*ANUM 43669

*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1995/04/24
*FAC 482 Wolf Creek
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 064000G217(4.4) NEW
*QUESTION

WHICH ONE (1) of the following is the speed droop setting on the governor, and reason for that setting for an EDG running in automatic and supplying power to its vital bus?

- a. Set at MINIMUM to enable the EDG to change load without changing speed.
- b. Set at MINIMUM to enable the EDG to increase speed as load increases.
- c. Set at MAXIMUM to enable the EDG to change load without changing speed.
- d. Set at MAXIMUM to enable the EDG to increase speed as load increases.

*ANSWER

a.

*REFERENCE

STG J6b

KA 064000G007 (3.4/3.6)

27

*QNUM 11019
*HNUM 30917 (Do NOT change If < 9,000,000)
*ANUM 11019
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1991/04/22
*FAC 482 Wolf Creek
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 010000K301(3.9) NEW
*QUESTION

Reactor power is 100%. Pressurizer pressure instruments are as follows:

- PT 455 supplying PCV 455C
- PT 456 supplying PCV 456 and PCV 474

PT 456 fails high with pressurizer pressure at 2235 psig. With no operator action and all systems in normal operating configuration, the SEQUENCE of events that will occur is:

- PCV 456 and PCV 474 opens, block valves close, proportional heaters full on, and backup heaters on.
- Proportional heaters full on, backup heaters on, PCV 456 and PCV 474 opens.
- PCV 456 and PCV 474 opens, proportional heaters full on, backup heaters on.
- PCV 455C and PCV 474 opens, proportional heaters full on, backup heaters on.

*ANSWER

c.

*REFERENCE

STG A4a

3.5/3.5

28

```
*QNUM      4640
*HNUM      30918 (Do NOT change If < 9,000,000)
*ANUM      4640
*QCHANGED  FALSE
*ACHANGED  FALSE
*QDATE     1991/04/22
*FAC       482      Wolf Creek
*RTYP      PWR-WEC4
*EXLEVEL   R
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA        011000A203 NEW
*QUESTION
```

The following SEQUENTIAL events have just occurred:

- charging flow decreased to minimum,
- pressurizer level decreased,
- letdown isolated and heaters turned off,
- pressurizer level increased to high level reactor trip.

Pressurizer level control selector switch is in the LT-459 position and pressure control is on PT-455. No operator actions have been taken. Which failure has occurred?

- a. Reference pressurizer level failed to the no load position.
- b. Auctioneered Tave failed Hi due to a failed RTD.
- c. Level channel 459 failed high.
- d. Level channel 459 failed low.

*ANSWER

c.

*REFERENCE

STG A4a

3.7/3.0

29

*QNUM 43657

*HNUM 44993 (Do NOT change If < 9,000,000)

*ANUM 43668

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1995/04/24

*FAC 482 Wolf Creek

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 035010K503 NEW

*QUESTION

WHICH ONE (1) of the following is the reason for the INITIAL S/G swell as power INCREASES?

- a. INCREASES due to bubble formation and an INCREASE in S/G downcomer mass.
- b. INCREASES due to bubble formation and a DECREASE in S/G downcomer mass.

- c. INCREASES due to INCREASED S/G pressure and an INCREASE in S/G downcomer mass.
- d. INCREASES due to INCREASED S/G pressure and a DECREASE in S/G downcomer mass.

*ANSWER

a.

*REFERENCE

STG A-5

KA 035010K503 (2.8/3.1)

30

*QNUM 28349

*HNUM 36159 (Do NOT change If < 9,000,000)

*ANUM 28359

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1993/03/15

*FAC 482 Wolf Creek

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 062000A204 NEW

*QUESTION

Which ONE of the following describes the effect that a vital inverter failure will have on vital (safety related) instrument power?

- a. No loss of power since vital instrument power is automatically backed up from 120 VAC source.
- b. No loss of power since vital instrument power will be automatically supplied from the batteries if an inverter fails.
- c. Momentary loss of power until vital instrument power is automatically re-energized from 480 VAC via regulated transformers.
- d. A loss of power until vital instrument power can be manually re-energized from 480 VAC via regulated transformers.

*ANSWER

a.

*REFERENCE

STG J-10

[3.1/3.4*]

31

Given the following:

RCS pressure is 225 psig.
RCS temperature is 200 degrees F.
RHR Heat Exchanger Flow control valve (HCV-638) is 10% open.
ONLY RHR train "A" is in operation.

Which ONE of the following describes the expected operator actions when a CCW SURGE TANK HI alarm on PK01-07 annunciates?

- A RHR Heat Exchanger flow control valve (HCV-638) will be OPENED to maintain desired RHR system flow rate and PZR Level maintained by increasing charging flow.
- B RHR Heat Exchanger bypass valve (HCV-670) will be CLOSED to bypass RHR Heat Exchanger and Train "B" placed in service.
- C RHR Heat Exchanger flow control valve (HCV-638) will be CLOSED and RHR pump recirculation flow control valve fully OPENED.
- D RHR Heat Exchanger flow control valve (HCV-638) will be CLOSED and HCV-133 to CVCS Letdown CLOSED.

ANSWER: D
WC *QNUM 43660 KA K2.03 OP AP-16 STG B-2 NEW

32

*QNUM 28359
*HNUM 36160 (Do NOT change If < 9,000,000)
*ANUM 28369
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1993/03/15
*FAC 482 Wolf Creek
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT

*KA 041020A102 NEW

*QUESTION

The following Plant conditions exist:

MODE 1 with reactor power at 9%.

Tave at 560 degrees F.

Steam Dumps in AUTOMATIC in STEAM PRESSURE mode.

Which ONE of the following statements describes the plant response if (PT- 507) fails HIGH?

- a. Steam dumps remain closed because the arming signal is absent since the difference between reactor and turbine power is 3%.
- b. Steam dumps open with arming signal present since the steam header pressure is greater than the controller setpoint.
- c. Steam dumps open with arming signal present since Tave-Tref has greater than a 2 degree difference.
- d. Steam dumps remain closed because the arming signal is absent since Tave is less than the LOW Tave setpoint.

*ANSWER

b.

*REFERENCE

Steam Dump STG C2B, Obj 10

[3.1/3.2]

33

*QNUM 35159

*HNUM 35919 (Do NOT change If < 9,000,000)

*ANUM 35169

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1993/03/15

*FAC 482 Wolf Creek

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 008000A308(3.7) NEW

*QUESTION

The 1-1 and 1-2 Component Cooling Water (CCW) pumps are operating when an SI signal is received. Normal power is available.

IDENTIFY the response of the CCW system to this condition.

- a. The 1-1 and 1-2 CCW pumps will trip and restart. The 1-3 CCW pump will remain off.
- b. The 1-3 CCW pump will start and excess letdown CCW valve, FCV-361, will close.
- c. The 1-1 and 1-2 CCW pumps will trip. The 1-3 CCW pump will start.
- d. The 1-1 and 1-2 CCW pumps will continue to run. In addition the 1-3 CCW pump will start and excess letdown CCW valve, FCV-361, will stroke full open.

*ANSWER

b.

*REFERENCE

STG F.2, Component Cooling Water, page 22, Rev 006, EO 6

[3.2*/3.0]

34

*QNUM 35181

*HNUM 35941 (Do NOT change If < 9,000,000)

*ANUM 35191

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1993/03/15

*FAC 482 Wolf Creek

*RTYP PWR-WEC4

*EXLEVEL R

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 014000A204 NEW

*QUESTION

During the performance of the abnormal procedure to realign a Dropped Rod, the Pulse to Analog converter was mistakenly NOT held in "Manual". Later, the rods are driven in during a rapid power decrease.

What is the consequence of this mistake?

- a. Failure of rod bank LoLo limit alarm to come in when required.
- b. A Non-Urgent failure alarm occurs on inward rod motion.
- c. A disparity between bank demand and DRPI indication.
- d. An indicated misalignment between rods in the affected group.

*ANSWER

a.

*REFERENCE

STG A-3b, Rod Position Indicating System, Page 15, Rev 004, EO 6.

35

*QNUM 35183

*HNUM 35943 (Do NOT change If < 9,000,000)

*ANUM 35193

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1993/03/15

*FAC 482 Wolf Creek

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 015020K503 NEW

*QUESTION

Which of the following parameters is monitored to ensure the Heat Flux HCF, FQ(Z) limit is maintained within its limits?

a. Quadrant Power Tilt Ratio.

b. DNB parameters.

c. RCS flow rate.

d. Axial Flux Difference.

*ANSWER

d.

*REFERENCE

Technical Specifications, 3/4.2.1 Bases, page B 3/4 2-1. Amendment No.

1.

[3.3/3.7]

36

*QNUM 43579

*HNUM 44915 (Do NOT change If < 9,000,000)

*ANUM 43590

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1995/04/24

*FAC 482 Wolf Creek
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 000025K101 NEW
*QUESTION

Given the following:

- The plant is in MODE 5 and has been shutdown 22 days.
- One (1) train of RHR is tagged out and one (1) train is supplying RCS cooling flow, with RCS level maintained at the hot leg centerline
- The S/G primary side manways are open in preparation for nozzle dam installation.
- RCS Temperature is 120 degrees F
- Pressurizer Temperature is 140 degrees F

WHICH ONE (1) of the following is the MINIMUM estimated time for the RCS to reach 200 degrees F if RHR flow is lost?

Using Appendix B to OP AP SD-5, "Loss of Residual Heat Removal", determine which ONE of the choices below correctly indicates how long it will take the RCS to reach 200 degrees.

- A. 23.0 minutes
- B. 25.6 minutes.
- C. 26.2 minutes.
- D. 34.1minutes.

*ANSWER

a

*REFERENCE

OP AP-SD-5, "Loss of RHR Cooling," Appdx C
148.

37

1.00

A reactor trip AND safety injection occur. The operators perform the Immediate Actions of E-0, "REACTOR TRIP OR SAFETY INJECTION," with the following indications:

- Reactor trip breakers are OPEN
- Rod H-2 stuck at 228 steps (DRPI)

- Turbine governor and stop valves are CLOSED
- Electrical buses F, G, H are ENERGIZED
- Containment pressure is 5 psig
- Feed water isolation valves are CLOSED
- Phase A Light Box shows many WHITE LIGHTS ON

What action should the operators take next?

- A. Manually actuate Phase A Containment Isolation.
- B. Check that PK02-02, "SAFETY INJECTION INITIATE," is ON.
- C. Verify Containment Vent Isolation.
- D. Perform Emergency Boration per OP AP-6.

Answer: A

Reference Id: B-0570 Exam Bank B #319
 Must appear: No
 Status: Active
 User Text: 9693.13ALLE KA 000007EK2.1(3.5)
 User Number 1: 2.10
 User Number 2: 3.40
 Difficulty: 2.00
 Time to complete: 2
 Topic: E-0, PHASE A IMMEDIATE ACTIONS
 Cross Reference: E-0, STEP 7 (RNO)
 Comment: Reactor Trip or Safety Injection
 VALIDATION DATE: 3/19/93
 QUESTION TYPE:
 updated 3/2/95 by jfb1
 Checked IAW new EOP, no changes required, 2/15/96, rjg2.
 reviewed per tip 8145, no change required rjb2 12/10/96
 Taken to Revise for "B" exam bank work. 1/28/97 jpsj
 Pedigree and ratings checked OK 2/1/97 JLE7
 Changed 2 distractors to possible (but incorrect) procedure paths and made editorial changes to stem 2/3/97 mrn7 - NEEDS REVALIDATION
 Validated and taken to Review. 2/4/97 jpsj
 Taken to ACTIVE after review. 2/8/97 jmh1
 Reviewed against rev 20 (TIP 8948), no impact. 4/16/97 jpsj
 Checked as part of question review for biennial exam 12/22/98 MTC6

A reactor trip has occurred from 100% power. During performance of E-0, "Reactor Trip or Safety Injection," immediate actions, it is observed that the Main Turbine Stop and Governor valves are all OPEN.

What is the concern if this condition is NOT corrected?

- A. A rapid increase in PZR pressure.
- B. A rapid increase in RCS cold leg temperatures.
- C. Possible damage to the main turbine.
- D. An uncontrolled cooldown of the RCS.

Answer: D

Reference Id: B-0018 Exam Bank B #18
Must appear: No
Status: Active
User Text: 8968.130494
User Number 1: 3.30
User Number 2: 3.90
Difficulty: 3.00
Time to complete: 1
Topic: E-0, basis for turbine trip verification
Cross Reference: E-0, STEP 2 (BKGD)
Comment: REF: Reactor Trip or Safety Injection, background document
VALIDATION DATE: 2/6/91
ADD KA REF: 3.1/000/007/EK3.01 (4.0/4.6)
UPDATED 2/8/95 EAD1 - replaced one distractor
VALIDATION DATE: 3/4/95 DLH4 (no changes)
Checked OK, 7/2/96, acd1
reviewed per tip 8145, no change required rjb2 12/10/96
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Pedigree and ratings checked OK 2/1/97 JLE7
Checked with current references. 02/02/97 wkd2
Validated. Taken to Review status. 2/5/97 wkd2
Taken to ACTIVE after review. 2/8/97 jmh1
Reviewed against rev 20 (TIP 8948), no impact. 4/16/97 jpsj
Checked as part of question review for biennial exam 12/22/98 MTC6

The following plant conditions exist:

Rod Control Urgent Failure Alarm	LIT
General Warning LED for rod F-2	LIT
Rod Bottom LED for rod F-2	LIT
Rods in	MANUAL

Which ONE (1) of the following confirms the existence of a dropped rod?

- A The Tavg chart recorder shows an increasing trend from 572 F
- B The power range NI's increased to 101% from 99%.
- C The QPTR is 1.004 as compared to the last calculation of 1.005.
- D The Tavg chart recorder shows a decreasing trend from 572 F

ANSWER D

*REFERENCE P-0107
OP AP-12C
STG-A3a

40

1.00

A Liquid Radwaste Discharge Permit and Checklist have been completed in accordance with OP G-1 in preparation for overboard discharge of an Equipment Drain Receiver. Checklist status is as follows:

- One Circulating Water Pump is RUNNING
- One Aux Saltwater Pump is RUNNING
- RE-18, Radwaste Effluent Radiation Monitor, is OOS
- FR-20, Radwaste Effluent Recorder, is OOS

Based on the information given, should the Shift Foreman authorize the discharge?

- A. YES; the alternate radiation monitor and flow recorder could be used.
- B. YES; samples can be analyzed and flow rate can be estimated.
- C. NO; there is insufficient dilution flow.
- D. NO; both the discharge radiation monitor and the flow recorder are out of service.

Answer: B

Reference Id: B-0295 Exam Bank B #163
Must appear: No
Status: Active
User Text: 9523.13ALLN
User Number 1: 2.90
User Number 2: 3.50
Difficulty: 5.00
Time to complete: 2
Topic: Liquid waste discharge permits
Cross Reference: ECG 39.3
Comment: Radioactive Liquid Effluent Monitoring Instrumentation.
2nd REF: OP G-1
VALIDATION DATE: 3/17/91
updated 2/24/95 by jfb1
Reference changed above from T/S 3.3.3.9. Checked OK, 5/9/96, GES
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Pedigree and ratings check OK 2/1/97 JLE7
Checked. 2/3/97 j blackwell
Validated and taken to review. 2/4/97 by jdk5.
Added objective 9523 to question w/ attendant KAs. 2/5 jpsj
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6

41

1.00

Unit 1 shutdown recently and is in Mode 5 when a loss of all AC occurs. Operators take proper action to start decay heat removal using steam generators. While performing this task the operators are asked to allow the RCS pressure to INCREASE.

What is the purpose of allowing the RCS to repressurize?

- A. Enhance the natural circulation of the RCS.
- B. Enable the operators to control RWST gravity flow into the RCS.
- C. Prevent exceeding the maximum makeup capabilities of the rapid drain system to the steam generators.

- D. Provide the proper D/P across the RCP seals in anticipation of restarting the RCPs.

Answer: A

Reference Id: B-0461Exam Bank B #244
Must appear: No
Status: Active
User Text: 7921.13ALLN
User Number 1: 2.90
User Number 2: 3.10
Difficulty: 3.00
Time to complete: 3
Topic: Basis for RCS repressurizing after loss of DHR
Cross Reference: LR9215 OBJ 1.2G
Comment: Reference: Background documents for SD appendix D
Author: Joe Haynes
updated 2/28/95 by jfb1
VALIDATION DATE: 4/5/95 DLH4 (no changes)
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Pedigree and ratings checked OK 2/1/97 JLE7
Validated and taken to review. 2/7/97 jpsj
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6

42

*QNUM 43558
*HNUM 44894 (Do NOT change If < 9,000,000)
*ANUM 43569
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1995/04/24
*FAC 482 Wolf Creek
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 000011G2.4.22 NEW
*QUESTION

Given the following:

- o The crew is responding to a large break LOCA.
- o A CORE COOLING status tree MAGENTA path causes a

transition to FR-C2, "Response to Degraded Core Cooling."

- o During performance of FR-C2, the CORE COOLING status tree changes from MAGENTA to YELLOW.

- o A MAGENTA path exists on the CONTAINMENT status tree.

- o FR-Z1, "Response to High CTMT Pressure," is the procedure referenced by the CONTAINMENT status tree.

WHICH ONE (1) of the following is the required action?

- a. Complete FR-C2 and then go to FR-Z1, since CONTAINMENT is a lower priority path than CORE COOLING.

- b. Go to FR-Z1, since a MAGENTA path has higher priority than a YELLOW path. Completion of FR-C2 is not needed.

- c. Complete FR-C2, after completing FR-Z1, since the CORE COOLING status tree had been in a MAGENTA path.

- d. Perform FR-C2 and FR-Z1 together, since FR procedures of the same priority can be executed together.

*ANSWER

a.

*REFERENCE

F-0, "Critical Safety Function Status Trees,"
foldout page.

KA 000011G2.4.22 (4.0)

43

*FAC 483 Callaway

*KA 000003AA106 (4.0/4.1) NEW

*QUESTION

Which ONE of the following describes the procedure method of controlling Tavg - Tref mismatch while a dropped rod RETRIEVAL is in progress during at-power operations?

- a. Combination of rod bank movement and dilution/boration.

- b. Adjust the Main Turbine load as necessary.

- c. Moving rods in another bank.

- d. Borating as necessary.

*ANSWER

b.

*REFERENCE

OP AP-12C

44

NEW

The containment atmosphere radiation monitors RM-44A AND RM-44B sample:

- a. containment atmosphere utilizing gaseous effluent and isolate the containment purge system upon a S signal.
- b. Atmosphere inside the containment for the Hydrogen Control System and are not isolated by auto phase A actuation.
- c. Atmosphere between the containment isolation valves on the mini-purge exhaust line and can initiate a CVI actuation.
- d. Atmosphere from the containment purge exhaust line outside containment and can initiate a CVI actuation.

*ANSWER

d.

KA 029A1029(3.4)

*REFERENCE

STG G-4 and H-4 REVISED

45

*QNUM 26221

*HNUM 26370 (Do NOT change If < 9,000,000)

*ANUM 26231

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1991/01/28

*FAC 483 Callaway

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 075020K301 NEW

*QUESTION

The trip of a running Circulating Water Pump at 100% power will:

- a. cause a turbine trip on low vacuum.
- b. require a load reduction to < 50%.
- c. have no effect because the other pump has enough capacity.

d. cause reactor power to increase due to condenser efficiency decreasing.

*ANSWER

b.

*REFERENCE

STG C-3c, MAIN TURBINE CONTROLS AND CONTROL OIL, OBJ. I P.21

46

*QNUM 26332

*HNUM 26481 (Do NOT change If < 9,000,000)

*ANUM 26342

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1991/01/28

*FAC 483 Callaway

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 000011G012 NEW

*QUESTION

Which ONE of the following describes the use of adverse containment values in the advent of a LOCA?

- a. If containment pressure or radiation exceeds the stated value on the foldout page, adverse containment values are used for the duration of the event.
- b. Once in adverse conditions normal values can be used, if both pressure and radiation decrease less than the foldout page values.
- c. Once in adverse conditions, a return to normal values can be made, if containment pressure was the only reason adverse conditions had been declared.
- d. Once in adverse conditions, a return to normal values can be made, if containment radiation was the only reason adverse conditions had been declared.

*ANSWER

c.

*REFERENCE
EOP E-0

47

*QNUM 39118
*HNUM 40112 (Do NOT change If < 9,000,000)
*ANUM 39128
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1994/02/21
*FAC 483 Callaway
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 000060G2.3.1(3.0) Bank 98 Exam

*QUESTION

Which ONE of the following is the maximum allowable dose at the site boundary that should be received by a person following an inadvertent release from a Gas Decay tank?

- a. A whole body dose of 0.002 rem.
- b. A thyroid dose of 0.27 rem
- c. A thyroid dose of 0.017 rem
- d. A whole body dose of 0.5 rem

*ANSWER

d.

*REFERENCE

Technical Specification 3.11.2.6 Bases, page 3/4 11-1

48

*QNUM 19709
*HNUM 19825 (Do NOT change If < 9,000,000)
*ANUM 19718
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1990/07/30
*FAC 483 Callaway
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR

*QVAL

*SEC

*SUBSORT

*KA G2.4.8 (3.0/3.7) 10CFR55.43(5) NEW

*QUESTION

WHICH ONE (1) of the following are symptoms of BOTH a steamline break inside containment and a LOCA that require transition from E-0, "Reactor Trip or Safety Injection," to E-1, "Loss of Reactor or Secondary Coolant"?

- a. High containment radiation.
High containment pressure.
Increasing containment recirculation sump level.
- b. Low RCS pressure.
High containment pressure.
Increasing containment recirculation sump level.
- c. Low RCS pressure.
Low pressurizer level.
Increasing containment recirculation sump level.
- d. Low RCS pressure.
Low pressurizer level.
High AFW flow.

*ANSWER

- a. [+1.0]

*REFERENCE

E-0, "Reactor Trip or Safety Injection", p. 23.

49

*QNUM 19732

*HNUM 19848 (Do NOT change If < 9,000,000)

*ANUM 19741

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1990/07/30

*FAC 483 Callaway

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA K/A 000065A208 (2.9/3.3) NEW

*QUESTION

WHICH ONE (1) of the following air operated valves inside containment fails closed on a loss of instrument air?

- a. RCP "1" seal water outlet valve (8141A).
- b. Reactor vessel flange leakoff valve (8032).
- c. Regenerative heat exchanger to loop 1 cold leg (8146).
- d. Pressurizer Relief Tank to Reactor Coolant Drain Tank (8031).

*ANSWER

d. [+1.0]

*REFERENCE

OP AP-9

50

*QNUM 26272

*HNUM 26421 (Do NOT change If < 9,000,000)

*ANUM 26282

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1991/01/28

*FAC 483 Callaway

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 000054A101 NEW

*QUESTION

The following plant conditions exist:

- Reactor trip/ SI actuated
- RCS Temperature 500 degrees F
- pressurizer pressure 2000 psig
- steam generator (1,2,3) pressure 450 psig
- steam generator level 1,2,3 50% wide range
- steam generator 4 pressure 0 PSIG
- steam generator level 4 5% wide range
- auxiliary feedwater flow 200 GPM to each SG
- containment pressure 10 psig

Which ONE of the following actions should be taken with the auxiliary feedwater system? (ASSUME MSIVs ARE SHUT)

- a. Reduce flow on all steam generators until 435 GPM total flow is achieved.

- b. Isolate auxiliary feedwater flow to steam generator 4 to minimize containment pressure and maintain greater than 435 GPM to the other 3 intact SGs.
- c. Maintain 25 GPM to steam generator 4 to avoid dryout and maintain the other 3 intact SGs at 6%.
- d. Isolate aux. Feedwater to steam generator 4 and reduce flow to less than 435 GPM to the other 3 intact SGs.

*ANSWER

b.

*REFERENCE

E-2, STEP 4, OBJ. D

51

*QNUM 39084
 *HNUM 40078 (Do NOT change If < 9,000,000)
 *ANUM 39094
 *QCHANGED FALSE
 *ACHANGED FALSE
 *QDATE 1994/02/21
 *FAC 483 Callaway
 *RTYP PWR-WEC4
 *EXLEVEL S
 *EXMNR
 *QVAL
 *SEC
 *SUBSORT
 *KA 000027A204 NEW
 *QUESTION

The unit is in the process of ramping to full power at 10% per hour with the following conditions:

- NIS power 80%
- Turbine load 960 MWE
- Tavg 580 degrees F
- Pressurizer pressure 2205 psig

Which ONE of the following describes plant status with respect to Technical Specification's limitations?

- a. Pressure is less than the required DNB value; no action is required, since cause is due to the power ramp.
- b. Pressure is less than the required DNB value; the required action is to

restore temperature to within the specified limits or reduce thermal power.

c. Pressure is above the required DNB value; no action is required.

d. Pressure is less than the required DNB value; the required action is to restore pressure to within the specified limits or reduce thermal power.

*ANSWER

d.

*REFERENCE

Technical Specifications 3.2.5, page 3/4 2-13

Objective: J of LP-A-9

000027a204 [3.8/3.9]

52

*QNUM 19726

*HNUM 19842 (Do NOT change If < 9,000,000)

*ANUM 19735

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1990/07/30

*FAC 483 Callaway

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 000037A201 NEW

*QUESTION

The following plant conditions exist:

-The reactor is in Mode 1.

-A steam generator tube leak has been identified in S/G 1-2 per OP AP-3 "Steam Generator Tube Leak".

-Steam Generator pressure in the 1-2 generator has remained less than 1035 psig.

-Prior to the shutdown the plant experienced a loss of ALL site power and the Immediate Action steps of ECA-0.0, "Loss of All AC Power have been completed.

-Health Physics has just found indications of a radioactive release to the environment.

-Prior to the loss of AC power ALL components were in their normal Mode 1 configuration.

WHICH ONE (1) of the following components/systems is the radiation release point to the environment?

- a. Steam generator blowdown.
- b. Turbine Driven Auxiliary Feedwater Turbine.
- c. Steam generator sample lines.
- d. Steam generator PORV.

*ANSWER

- b. [+1.0]

*REFERENCE

1. OP AP-3A, "Steam Generator Tube Leak", Learning Objective 3 & 4, p. 42.
2. K/A 000037A205 (2.8/3.3)

53

*QNUM 19728

*HNUM 19844 (Do NOT change If < 9,000,000)

*ANUM 19737

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1990/07/30

*FAC 483 Callaway

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 000038K306 NEW

*QUESTION

The following plant conditions exist:

- The reactor has been tripped due to a Steam Generator Tube Rupture.
- The Reactor Coolant Pumps are OFF.
- E-3, "Steam Generator Tube Rupture", step 23 (depressurization of the RCS using PZR PORV) is being performed.
- RCS pressure is 825 psig.
- Pressurizer level is zero (0)%.

WHICH ONE (1) of the following is the cause for the pressurizer level indication to return to scale during depressurization?

- a. Accumulators have injected into the core.
- b. RCS has reached saturation and the upper portion of the core has voided.
- c. Non-condensable gases have formed in the reactor vessel.

- d. The open PORV has reduced RCS pressure sufficiently to allow ECCS water to match break flow.

*ANSWER

b. [+1.0]

*REFERENCE

1. E-3 Series-"Steam Generator Tube Rupture",
K/A 000038K306 (4.2/4.5) K/A 000038A109 (3.2/3.3)

54

*QNUM 39064

*HNUM 40058 (Do NOT change If < 9,000,000)

*ANUM 39074

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1994/02/21

*FAC 483 Callaway

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 000022AK302 NEW

*QUESTION

CCP 1-1 is in service when CVCS-HCV-142, RCP seal control valve, drifts to the CLOSED position resulting in a loss of normal charging.

Which ONE (1) of the following is the required action?

- a. Fully open FCV-128 to maximize charging flow.
- b. Start an idle charging pump.
- c. Open CVCS-8387B, FCV-128 bypass.
- d. Open CVCS-8403, seal control bypass valve.

*ANSWER

d.

*REFERENCE

OP AP-17

55

*QNUM 39096

*HNUM 40090 (Do NOT change If < 9,000,000)

*ANUM 39106

*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1994/02/21
*FAC 483 Callaway
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 000032A202 NEW
*QUESTION

The following plant conditions exist:

- Reactor startup in progress.
- SRNI N31 reads 2E4 cps.
- SRNI N32 reads 1.7E4 cps.
- Both IRNIs read 4E-11 amps.
- SUR is 0 dpm.
- Control Bank D is at 62 steps.

Which ONE of the following describes the technical specification required action if N32 channel suddenly fails to ZERO when Control Bank D is again withdrawn?

- a. Continue the startup using N31 as the valid channel/instrument.
- b. Stop rod withdrawal; place N31 Level Trip in BYPASS and continue the startup using the IRNI.
- c. Suspend all positive reactivity additions until the N32 channel has been repaired.
- d. Insert all control banks; recommence the startup after the N32 channel has been repaired.

*ANSWER

c.

*REFERENCE

TS

000032AK301 [3.2/3.6]

56

*QNUM 26260
*HNUM 26409 (Do NOT change If < 9,000,000)
*ANUM 26270
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1991/01/28

*FAC 483 Callaway
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 000008AK302 (3.6/4.1) NEW
*QUESTION

Pressurizer PORV 456 has lifted and failed to fully reseal resulting in the following plant conditions: (assume the block valve has failed to close)

-Rx trip
-pressurizer pressure 1985 psig
-pressurizer vapor space temperature 635 degrees
-Tave 557 degrees
-PRT level 75 %
-PRT pressure 35 psig

The tailpipe temperature indication for Pressurizer PORVS should read:

- a. full scale high at 400 degrees F.
- b. 280 degrees F.
- c. 260 degrees F.
- d. 220 degrees F.

*ANSWER

b.

*REFERENCE
E-0,
STEAM TABLES

57

*QNUM 19715
*HNUM 28626 (Do NOT change If < 9,000,000)
*ANUM 19724
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1991/08/29
*FAC 483 Callaway
*RTYP PWR-WEC4
*EXLEVEL R

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA E05EK1.2 (3.9/4.5) NEW

*QUESTION

WHICH ONE (1) of the following is the basis for stopping the RCPs upon entering FR-H.1, "Response to Loss of Secondary Heat Sink"?

- a. Allows the operator time to establish a higher flow rate for high pressure SI thus increasing the RCS cooldown rate.
- b. Allows for a more controlled cooldown via natural circulation when feedwater is established.
- c. Allows the operator time to depressurize the intact steam generators in order to reduce RCS pressure and inject the accumulators.
- d. Allows the operator to reduce heat addition to the RCS and extend the inventory in the steam generators.

*ANSWER

d. [+1.0]

*REFERENCE

FR-H.1 Basis

58

1.00

During a refueling operation with a fuel assembly near the transfer cart in transit from the Reactor Vessel to the Containment Building Upender, a HIGH RADIATION alarm, PK11-21 is received. Radiation Monitor RE-7, Incore Seal Table Area Monitor, is reading 57 mR/hr.

To place the fuel assembly in a "Safe Position," the fuel assembly should be:

- A. Placed in the upender, and upender lowered.
- B. Lowered in the refueling mast, gripper engaged, to the Refueling Pool floor.
- C. Taken back to the reactor vessel.
- D. Left as is.

Answer: A

Reference Id: B-0350 Exam Bank B #197 KA000036AA104 (3.1/3.7)

Must appear: No
Status: Active
User Text: 6619.110341
User Number 1: 3.00
User Number 2: 4.10
Difficulty: 2.00
Time to complete: 2
Topic: Fuel assembly damage during fuel handling
Cross Reference: LPA21, OP AP-21
Comment: Irradiated Fuel Damage
VALIDATION DATE: 1/18/91
updated 2/28/95 by jfb1
Checked OK, 5/20/96, GES
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Pedigree and ratings checked OK 2/1/97 JLE7
Checked on 2/1/97 by jdk5. Minor changes only.
Validated and taken to review. 2/6/97 jpsj
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6

59

1.00

E-0.2, "Natural Circulation Cooldown," step 15e, "Start Depressurization using Aux Spray or one PZR PORV and Continue Cooldown," is in progress. As pressure decreases, a large increase in pressurizer level occurs. Charging and letdown are in manual and approximately equal.

The procedurally required operator response is to

- A. isolate the ECCS accumulators to stop the level increase.
- B. increase the cooldown rate up to the maximum permitted rate of 50°F/hr to return pressurizer level to normal.
- C. minimize charging flow while maintaining letdown in service to return pressurizer level to normal.
- D. repressurize the RCS within the limits of the cooldown curve to return pressurizer level to normal.

Answer:

D

Reference Id:

B-0466 Exam Bank B #247, KA G2.1.7 (3.7/4.4)

Must appear: No
 Status: Active
 User Text: 7920.13ALLE
 User Number 1: 3.00
 User Number 2: 3.50
 Difficulty: 2.00
 Time to complete: 3
 Topic: E-0.2: Increase PZR pressure if void forms
 Cross Reference: E-0.2
 Comment: Natural Circulation Cooldown
 VALAIDATION DATE: 3/5/93
 updated 2/28/95 by jfb1
 Checked per new EOP, no changes required, 2/16/96, rjg2.
 Taken to Revise for "B" exam bank work. 1/28/97 jpsj
 Pedigree and ratings checked OK 2/1/97 JLE7
 Non-intent stem change. 2/3/97 jblackwell
 Validated 2/3/97 jpsj
 Validated and taken to Review. 2/4/97 jpsj
 Taken to ACTIVE after review. 2/8/97 jmh1
 Checked as part of question review for biennial exam 12/22/98 MTC6

60

1.00

A LOCA and loss of offsite power occur. The diesel generators start and energize all the safeguard buses.

The operators have just completed E-0, "REACTOR TRIP OR SAFETY INJECTION," and are about to enter E-1, "LOSS OF REACTOR OR SECONDARY COOLANT," but the CSF Status Tree data listed below is currently on display:

- RVLIS Train A Out of Service
- RVLIS Train B Full Range 70%
- RVLIS Dynamic Range 18%
- RCS Pressure 1900 psig
- All Core Exit Thermocouples 800 °F
- AFW flow to S/G 1-1 115 gpm
- AFW flow to S/G 1-2 125 gpm
- AFW flow to S/G 1-3 145 gpm
- AFW flow to S/G 1-4 135 gpm
- Containment Pressure 24 psig
- Containment Radiation 1850 R/HR

Based on the above indications the operators should go to:

- A. FR-Z.1, "RESPONSE TO CONTAINMENT HIGH PRESSURE."
- B. FR-C.2, "RESPONSE TO DEGRADED CORE COOLING."
- C. FR-Z.3, "RESPONSE TO CONTAINMENT HIGH RADIATION."
- D. FR-C.1, "RESPONSE TO INADEQUATE CORE COOLING."

Answer: B

Reference Id: B-0557 Exam Bank B#307 (G2.4.4;4.0/4.3)
 Must appear: No
 Status: Active
 User Text: 5435.130494
 User Number 1: 3.40
 User Number 2: 4.00
 Difficulty: 2.00
 Time to complete: 6
 Topic: FR-C.2, ENTRY CONDITIONS
 Cross Reference: F-0, F-0.2
 Comment: CSFSTs (Core Cooling)
 VALIDATION DATE; 3/19/93
 QUESTION TYPE:
 updated 3/1/95 by jfb1
 Checked OK, 5/5/96, GES
 Taken to Revise for "B" exam bank work. 1/28/97 jpsj
 Pedigree and ratings checked OK 2/1/97 JLE7
 Changed distractor #2 from FR-H.1 to FR-C.1 (more plausible). 2/3/97 jpsj
 Validated and taken to review. 2/4/97 by jdk5.
 Taken to ACTIVE after review. 2/8/97 jmh1
 Checked as part of question review for biennial exam 12/22/98 MTC6

61

1.00

Due to a reactor trip and subsequent loss of offsite power, procedure E-0.4, "Natural Circulation Cooldown with Steam Void in Vessel (without RVLIS)," step 8, is in progress. During depressurization to the target pressure, PZR level rapidly increases to 92%.

What action(s) should the operators take?

- A. Stop RCS depressurization, then energize pressurizer heaters to increase RCS pressure by 100 psig.

- B. Stop RCS depressurization, then isolate accumulators if RCS pressure is less than 1000 psig.
- C. Continue RCS depressurization until RCS pressure is within 50 psig of the average pressure of all SGs.
- D. Continue RCS depressurization until RCS pressure is less than 900 psig, then isolate accumulators.

Answer: A

Reference Id: B-0013 Exam Bank B #13 KA 000056AA248 (4.3/4.4)
 Must appear: No
 Status: Active
 User Text: 3806.130494
 User Number 1: 3.40
 User Number 2: 3.90
 Difficulty: 3.00
 Time to complete: 3
 Topic: EP E-0.4, Nat Circ cooldown
 Cross Reference: E-0.4, STEP 9 (NOTE)
 Comment: REF: Natural Circulation Cooldown with Steam Void in Vessel (without RVLIS)

validation date: 2/6/91

updated 2/10/93

updated 2/8/95 EAD1 - Modified 2 distractors

VALIDATION DATE: 4/3/95 DLH4

checked, no change req'd, rjg2

Pedigree and ratings checked OK 2/1/97 JLE7

Checked with current references. 02/02/97 wk2

Extensive revision of stem/answers/distractors. Validation required. 2/5/97 jpsj

Validated and taken to review. 2/7/97 jpsj

Taken to ACTIVE after review. 2/8/97 jmh1

Checked as part of question review for biennial exam 12/22/98 MTC6

62

*QNUM 19733

*HNUM 19849 (Do NOT change If < 9,000,000)

*ANUM 19742

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1990/07/30

*FAC 483 Callaway

*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 000028G010 NEW
*QUESTION

The following plant conditions exist:

- The controlling pressurizer level channel fails low.
- No operator action is taken.

WHICH ONE (1) of the following sets of parameters describes the affect of this failure on the plant?

- a. Normal letdown remains in service, reactor trip occurs, and charging flow increases.
- B. Normal letdown isolates, charging flow increases, and reactor trip occurs.
- C. Normal letdown remains in service, reactor trip occurs, and charging flow decreases.
- d. Normal letdown isolates, reactor trip occurs, charging flow decreases.

*ANSWER

B. [+1.0]

*REFERENCE

1. STG A4a
2. K/A 000028G005 (3.1/3.2) K/A 000028G010 (3.6/3.7)
K/A 000028AA209(2.9/3.2)

63

Which ONE of the following will AUTOMATICALLY terminate a Liquid Radwaste release?

- A RE-18 source check.
- B RE-18 placed in "LEVEL CAL".
- C High liquid radwaste discharge flow rate.
- D Low dilution water flow rate.

ANSWER:

WC *QNUM 43667 B
KA A3.02 STG G-1 NEW

64

*QNUM 39107
*HNUM 40101 (Do NOT change If < 9,000,000)
*ANUM 39117
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1994/02/21
*FAC 483 Callaway
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 017020K403 NEW
*QUESTION

A LOCA has occurred, core exit thermocouple temperatures are indicating 690 degrees F and rapidly increasing.

Which ONE of the following is the expected response of the core exit thermocouples if core exit temperature continues to increase. ASSUME NO CORE COOLING IS PRESENT.

- a. The incore thermocouples will indicate lower than actual temperature as temperature core exit exceeds 700 degrees F.
- b. The incore thermocouples will indicate lower than actual temperature as core exit temperature exceeds 1200 degrees F.
- c. The incore thermocouples will become more accurate above 700 degrees F and provide satisfactory indication up to about 1200 degrees F.
- d. The incore thermocouples will become less accurate above 700 degrees F and provide satisfactory indication up to about 2300 degrees F.

*ANSWER

d.

*REFERENCE

STG B-5

017020K403 [3.1/3.3]

65

*QNUM 19663

*HNUM 19779 (Do NOT change If < 9,000,000)

*ANUM 19672

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1990/07/30

*FAC 483 Callaway

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 004000K620(3.1) NEW

*QUESTION

WHICH ONE (1) of the following actions is correct concerning Letdown Temperature Diversion valve, TCV-149?

- a. It will divert to the VCT if letdown flow temperature from the letdown Hx increases to 136 °F.
- b. It will divert flow from the VCT to the demineralizers on a high VCT level.
- c. It will divert letdown to an LHUT if letdown flow temperature increases to 136 °F.
- d. It will divert to the demineralizers on a loss of control air.

*ANSWER

a. [+1.0]

*REFERENCE

1. STG B-1a

66

*QNUM 19657

*HNUM 19773 (Do NOT change If < 9,000,000)

*ANUM 19666

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1990/07/30

*FAC 483 Callaway

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA G2.2.25 (2.7/3.9) NEW

*QUESTION

WHICH ONE (1) of the following is the basis for allowing two (2) hours to reduce the QUADRANT POWER TILT RATIO (QPTR) to within its limit with a tilt condition of greater than 1.02 but less than 1.09?

- a. Allows corrective action in the event of a xenon redistribution following power changes.
- b. Allows identification and repositioning of a dropped or misaligned rod.
- c. Allows boron concentration changes to restore QPTR to less than 1.02.
- d. Allows for identification and correction of a failed excore detector.

*ANSWER

b. [+1.0]

*REFERENCE

1. Technical Specification 3.2.4 and Bases, p. 3/4 2-10 & B 3/4 2-6.

67

*QUESTION

An operator is attempting to reset the throttle trip valve for AFW pump 1-1 following an overspeed trip. He has turned the handwheel for FCV-152 fully clockwise, but the latching lever will not stay latched. What is the next action?

- a. Verify that the overspeed trip mechanism is properly reset. If necessary, you must pull UP on the threaded stud of the latch plate until it locks into position.
- b. Verify that the overspeed trip mechanism is properly reset. If necessary, press DOWN on the threaded stud of the latch plate is fully seated.
- c. The operator must bleed the oil pressure off of the governor by turning the adjustment knob to the MINIMUM position. This knob must then be returned to the MAXIMUM position.
- d. The operator must bleed the oil pressure off of the governor by turning the adjustment knob ONE full turn. This knob must then be returned to its ORIGINAL position.

*ANSWER

b. [+1.0]

*REFERENCE S-2833 DCPD bank

68

*QNUM 19685
*HNUM 19801 (Do NOT change If < 9,000,000)
*ANUM 19694
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1990/07/30
*FAC 483 Callaway
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 103A401(3.2/3.3) NEW
*QUESTION

The following plant conditions exist:

- The reactor has tripped.
- Safety Injection has actuated.
- The immediate actions of E-0, "Reactor Trip or Safety Injection", have been completed.

WHICH ONE (1) of the following represents the reason for an abnormal system status indication on the SI portion of monitor light box C?

- a. Containment fan cooler running in fast speed.
- b. Containment fan cooler running in slow speed.
- c. Containment fan cooler switch in the fast speed position.
- d. Containment fan cooler switch in the slow speed position.

*ANSWER

- a. [+1.0]

*REFERENCE

STG H-4, "Containment Ventilation", p. 17 & 20.

69

A reactor trip and SI have occurred five minutes ago and the following conditions exist:

MSIVs 1, 3, and 4 are shut.
1-1 S/G pressure is 1005 psig.
1-2 S/G pressure is 850 psig.

1-3 S/G pressure is 975 psig.
1-4 S/G pressure is 1005 psig.

Where is the turbine driven aux feed pump getting its motive steam?

- A Steam line 3 down stream of MSIV
- B Steam lines 1 and 4 upstream of MSIV
- C Steam lines 2 and 3 upstream of MSIVs
- D Steam line 3 upstream of MSIV

ANSWER:
DCPP

D
BANK A 147 KA K1.03 modified

70

*QNUM 43666
*HNUM 45002 (Do NOT change If < 9,000,000)
*ANUM 43677
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1995/04/24
*FAC 482 Wolf Creek
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 034000K402 NEW
*QUESTION

WHICH ONE (1) of the following manipulator crane interlocks prevents motion of the bridge AND trolley when the tube is at the upper limit and the gripper is disengaged?

- a. Slack cable interlock.
- b. Gripper UP safety interlock.
- c. Slow zone interlock.
- d. Tube UP interlock.

*ANSWER
d.

*REFERENCE

STG B-8
KA 034000K402 (2.5/3.3)

71

1.00

A natural circulation cooldown is in progress per E-0.2, "Natural Circulation Cooldown."

The following parameters currently exist:

- 12 KV power is now available
- RCP seal differential pressures are 1000 psid
- 1-1, 1-3, & 1-4 RCP seal leakoff flows are 0.2 gpm
- 1-2 RCP seal leakoff flow is 0.4 gpm
- RCS hot leg temperatures are 410°F
- PZR level is 20%
- S/G 1-1, 1-2, 1-3, 1-4 narrow range levels are 33%
- CST level is 9%

Which of the following actions should be performed?

- A. Go to OP L-5, "Plant Cooldown from Minimum Load to Cold Shutdown."
- B. Actuate safety injection and go to E-0, "Reactor Trip or Safety Injection."
- C. Restart RCP 1-2 per Appendix B.
- D. Implement OP D-1:V, "Alternate AFW Supplies."

Answer:

D

Reference Id: B-0032 Exam Bank B #27;KA 000015K3.07(4.1/4.2)
Must appear: No
Status: Active
User Text: 3826.130494
User Number 1: 3.60
User Number 2: 4.30
Difficulty: 2.00
Time to complete: 3
Topic: Nat. Circ cooldown - When to use Alternate AFW Supplies
Cross Reference: E-0.2, FOLDOUT PAGE
Comment: REF: Natural circulation cooldown
VALIDATION DATE: 1/4/91
UPDATED 2/10/93

updated 2/21/95 by dlh4
Checked per new EOP, no changes required, 2/16/96, rjg2.
Checked against Rev. 10 of EOP, no changes needed 10/5/96, DLB3
Updated 11/21/96. No significant changes. MAP2
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Checked 1/28/97 jpsj
Pedigree and ratings checked OK 2/1/97 JLE7
Validated. Taken to Review status. 2/5/97 wkd2
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6

72

1.00

What action must be taken upon a COMPLETE LOSS of Emergency Diesel Generator (EDG) Room fire protection, assuming its associated fire doors are functional?

- A. Establish a fire watch patrol in the area within one hour.
- B. Establish a continuous fire watch with backup fire suppression equipment in the affected area within one hour.
- C. Declare the EDG inoperable and restore to OPERABLE status within 7 days or be in Hot Standby within the next 6 hours.
- D. Declare the EDG inoperable and restore to OPERABLE status within 72 hours or be in Hot Standby within the next 6 hours.

Answer: A

Reference Id: B-0291 Exam Bank B#161 KA000067AA2.15(3.9)
Must appear: No
Status: Active
User Text: 7732.110313
User Number 1: 3.70
User Number 2: 4.00
Difficulty: 2.00
Time to complete: 2
Topic: Loss of diesel generator fire protection
Cross Reference: ECG 18.5.C
Comment: Equipment Control Guidelines

VALIDATION DATE: 3/17/91

updated 2/24/95 by jfb1

Ref. now ECG vice T/S. No change in required actions, 5/9/96, GES
Taken to Revise for "B" exam bank work. 1/28/97 jpsj

Pedigree and ratings check OK 2/1/97 JLE7
Changed distractor #4 (no action) to plausible distractor. 2/3/97 j blackwell
Validated and taken to review. 2/5/97 by jdk5.
Minor reword of stem and and answer. 2/5/97 by jdk5.
Taken to ACTIVE after review. 2/8/97 jmh1
To review. Added to stem fire doors functional. 2/20/97, GES1
Taken to Active after review. 2/25/97, RLJ1

73

1.00

Operators are responding to a LOCA outside of containment and have entered ECA-1.1, "LOSS OF EMERGENCY COOLANT RECIRCULATION." Per procedure, the SFM directs the operator to establish only one train of SI flow to the core.

The basis for establishing one train of SI instead of both trains is:

- A. To prevent overfilling the pressurizer which may cause RCS overpressurization.
- B. To prepare for further RCS depressurization and cooldown.
- C. To guard against damaging all SI pumps.
- D. To extend the time before RWST inventory is depleted.

Answer: D

Reference Id: B-0507 Exam Bank B #271 KA E04 EK1.2(3.5/4.2)
Must appear: No
Status: Active
User Text: 6902.020304
User Number 1: 3.30
User Number 2: 4.30
Difficulty: 3.00
Time to complete: 2
Topic: ECA-1.1, REASON FOR ONLY ONE TRAIN OF SI
Cross Reference: ECA-1.1, STEP 11
Comment: LOSS OF EMERGENCY COOLANT RECIRCULATION
BACKGROUND DOCUMENT

VALIDATION DATE: 3/12/93

updated 3/1/95 by jfb1

Taken to Revise for "B" exam bank work. 1/28/97 jpsj

Pedigree and ratings checked OK 2/1/97 JLE7

Reviewed 2/3/97, jpl1, changed one distractor to make more credible, made minor changes to assoc. info.

Validation required.

Validated and taken to Review. 2/4/97 jpsj

Changed one distractor for plausibility. 2/6/97 jpsj

Taken to ACTIVE after review. 2/8/97 jmh1

Checked as part of question review for biennial exam 12/22/98 MTC6

74

1.00

A reactor trip and safety injection occur while operating at 22% power. The operators have just completed the Immediate Actions of E-0, "REACTOR TRIP OR SAFETY INJECTION."

The following conditions exist:

- S/G levels are 39% NR and STABLE
- S/G pressures are 950 psig and STABLE
- WR RCS pressure is 1820 psig and INCREASING
- SCMM reads 60°F and is INCREASING
- Pressurizer PORVs are CLOSED
- Pressurizer level is 56% and STABLE
- Secondary Radiation is NORMAL with NO monitors in ALARM
- Containment pressure is 0.1 psig and stable
- Containment radiation is NORMAL with NO monitors in ALARM
- Containment WR, structure, and cavity sump levels are NORMAL

Based on these conditions, what procedure will be performed after E-0?

- A. E-2, "FAULTED STEAM GENERATOR ISOLATION."
- B. E-1, "LOSS OF REACTOR OR SECONDARY COOLANT."
- C. E-0.1, "REACTOR TRIP RESPONSE."
- D. E-1.1, "SI TERMINATION."

Answer: D

Reference Id: B-0584 Exam Bank B #330 KA E02EA2.1(3.3/4.2)

Must appear: No

Status: Active
 User Text: 7988.13ALLE
 User Number 1: 2.60
 User Number 2: 3.40
 Difficulty: 4.00
 Time to complete: 2
 Topic: E-0, DIAGNOSIS OF PARTICULAR ACCIDENT TYPE
 Cross Reference: E-0, STEP 21
 Comment: Reactor Trip or Safety Injection
 QUESTION TYPE:
 updated 3/2/95 by jfb1
 VALIDATION DATE: 4/3/95 DLH4 (no changes)
 Checked IAW new EOP, no changes required, 2/15/96, rjg2.
 reviewed per tip 8145, no change required rjb2 12/10/96
 Taken to Revise for "B" exam bank work. 1/28/97 jpsj
 Pedigree and ratings checked OK 2/1/97 JLE7
 No changes made - OK 2/3/97 mrn7
 Validated and taken to Review. 2/4/97 jpsj
 Taken to ACTIVE after review. 2/8/97 jmh1
 Reviewed against rev 20 (TIP 8948), no impact. 4/16/97 jpsj
 Checked as part of question review for biennial exam 12/22/98 MTC6

75

Bank 98 Exam

You are on watch in the control room as a licensed operator. Shifts are 12 hours long. All the shifts are manned to the minimum composition of OP1.DC12, "Conduct of Routine Operations." Your watch relief is NOT on site for shift turnover.

Which ONE (1) of the following describes the guidance of the above instruction in this situation?

- A. Shift composition may NOT drop below the minimum unless an operator exceeds 12 hours on watch. Turnover your watch station to the oncoming unit Shift Foreman and depart.
- B. Shift composition may be one less than the minimum while attempting to contact the absent individual. Turnover your watchstation to the oncoming unit Shift Foreman and attempt to contact the absent individual.
- C. Shift composition may NOT be one less than the minimum as a result of an oncoming watchstander being absent. Remain on watch.
- D. Shift composition may be one less than the minimum for two hours. Turnover your watchstation to the oncoming unit Shift Foreman but remain on site in standby.

Answer: C.

TS 6.2.6, OP1.DC12, "Conduct of Routine Operations" p.14
 KA G214 (2.3/3.4)

Given the following:

- Unit 2 is at 100% power.
- A minor excursion of 2% reactor power has just occurred.

Which ONE (1) of the following is the MAXIMUM time in which reactor power should be reduced to within limits?

- A. Within five (5) minutes.
- B. Within 15 minutes.
- C. Within 30 minutes.
- D. There is NO time limit provided the eight-hour power average is NOT exceeded.

Answer: B.

OP L-4, "Normal Operation at Power," p 5.
KA G2.1.32 (3.4/3.8)

Which ONE of the following reflects the condition and the bases for Technical Specification 3.5.3 "Emergency Core Cooling Systems", requirement that ALL Safety Injection Pumps be verified INOPERABLE?

- A In Mode 4 to ensure that a mass addition transient can be relieved by one PORV.
- B In Mode 5 with water above the reactor vessel flange to ensure that a mass addition transient can be relieved by one pressurizer safety valve.
- C In Mode 5 with water below the reactor vessel flange to ensure that a mass addition transient can be relieved by one RHR suction relief valve.
- D In Mode 6 with the reactor vessel head removed and core alterations in progress in the vicinity of the reactor vessel hot legs.

ANSWER: A
CAL *QNUM 19660 KA G2.1.28 STG M-8 NEW

78

Bank 98 Exam

Given the following:

A twenty five (25) year old Maintenance Contractor with complete exposure records has the following exposure record for the current calendar year:

- Shallow Dose Equivalent 2.55 REM
- Committed Dose Equivalent 0.75 REM
- Deep Dose Equivalent 2.13 REM
- Lens Dose Equivalent 3.08 REM
- Committed Effective Dose Equivalent 1.95 REM

Which ONE (1) of the following is the individual's Total Dose Equivalent (TEDE) for the current calendar year?

- A. 2.88 REM
- B. 4.08 REM
- C. 5.21 REM
- D. 5.43 REM

Answer B.

RP1.ID6, "Personnel Dose Limits and Monitoring Requirements"
KA G2.3.1 (2.6/3.0)

79

BANK 98 Exam

Given the following:

- Unit 1 is at 100% power
- On-line risk assessment is being performed.

Which ONE (1) of the following situations would REQUIRE Operations Director approval prior to removing equipment from service for maintenance? AD7.DC6, "On-line Maintenance Risk Assessment," Attachment 9.13 is attached.

- A. YELLOW termini are present on the COMPONENT COOLING and CONTAINMENT Key Safety Functions are green.
- B. The scheduled duration of work is less than the PRA Allotted Outage Time.
- C. YELLOW termini are present on the HEAT SINK and RCS INTEGRITY Key Safety Functions, while all other Key Safety Functions are green.
- D. The PRA Allotted Outage Time is less than the threshold PRA Allotted Outage Time.

Answer: D

AD7.DC6,"On-line Maintenance Risk Assessment," p 7
KA G2.2.19 (2.1/3.1)

80

Bank 98 Exam

Which ONE (1) of the following responsibilities may be delegated by the Interim Site Emergency Coordinator (ISEC)?

- A. Approval of emergency dose limits necessary to save a life.
- B. Classification of an emergency event.
- C. Notification of the Nuclear Regulatory Commission.
- D. Assignment of plant personnel to positions in the Site Emergency Organization.

Answer: C.

Emerg. Plan, Pg. 76
KA G2.4.40 (2.3/4.0)

81

Bank 98 Exam

Given the following:

- An earthquake of magnitude 0.04g was detected on Unit 1 at 1400.

Which ONE (1) of the following is the LATEST time the fire area (zones) must be inspected for possible undetected earthquake induced fires?

- A. 1500
- B. 1600

C. 1700

D. 1800

Answer B.

EP M-10, "Fire Protection of Safe Shutdown Equipment," p 7
KA G2.4.26 (2.9/3.3)

82

Bank 98 Exam

Which ONE (!) Of the following tasks can the Work Control Shift Foreman authorize with verbal concurrence of a Unit Shift Foreman?

A. Performance of STP R-1A, "Exercising Full Length Control Rods"

B. Performance of STP M-21C, "Main Turbine Valve Testing"

C. Remove DG 1-2 from service for Governor replacement.

D. Placement of CVCS Deborating Demin 1-2 in service.

Answer: C.

OP1.DC10/ LADM1, p7; Question 84; 99 SRO exam
KA G2.1.2 (4.0)

83

Bank 98 Exam

Unit 1 DFWCS backup power supply needs replacement. A formal communication has been written to allow the MFW Regulation Valves and MFW pump controllers to be placed in manual for the duration of the replacement.

Which ONE (1) of the following should be prepared and attached to the formal communication before work is allowed to begin.

A. Licensing Basis Impact Evaluation (LBIE).

B. Operability Evaluation (OE).

C. Licensing Basis Impact Evaluation (LBIE) Screen.

D. Prompt Operability Assessment (POA)

Answer: C.

OP1.DC12; LADM1, Pg 5 Ques 89; 99 SRO exam
KA G2.2.8 (3.3)

84

New

Unit 1 is in Mode 5 with the following electrical equipment status:

- Startup Power is cleared for Transformer work.
- Aux. Power and Crosstie capability is operable.
- Diesel Generator 1-1 is cleared.
- Diesel Generator 1-2 & 1-3 are operable.

Using the attached reference(s) determine which ONE (1) of the following situations is required to allow Maintenance to place Diesel Generator 1-3 on its backup DC power source.

- A. After IY 13 is made available
- B. After Diesel Generator 1-1 is made available.
- C. After Mode 6 transition
- D. After water level in reactor cavity greater than 23 Ft.

Answer D.

AD8.DC55, Outage Safety Scheduling, Attachment 7.2; Ques 90 on 99 exam

NEED ATTACHMENT FOR QUESTION

KA G2.2.18 (3.6)

85

Bank 98 Exam

An area in the Auxiliary Building has the following conditions:

Dose Rate 10 mrem/hr

Airborne I-131 1.5 DAC

Surface Contamination 800 dpm/100 cm² gamma

Which ONE (1) of the following is the correct posting for this area?

- A. Radiation Area only.

- B. Surface Contamination Area and Airborne Radioactivity
- C. Airborne Radioactivity Area only.
- D. Radiation Area and Airborne Radioactivity Area.

Answer: D.

RPT, pgs 6 & 7 Ques 95 on 99 SRO exam
KA G2.3.1 (3.0)

86

*QNUM 19717
 *HNUM 19833 (Do NOT change If < 9,000,000)
 *ANUM 19726
 *QCHANGED FALSE
 *ACHANGED FALSE
 *QDATE 1990/07/30
 *FAC 483 Callaway
 *RTYP PWR-WEC4
 *EXLEVEL S
 *EXMNR
 *QVAL
 *SEC
 *SUBSORT
 *KA 000076K305 New
 *QUESTION
 WHICH ONE (1) of the following is the basis for reducing Tave to less than 500 deg. F. when the specific activity of the RCS is greater than 100/E microCuries per gram of gross radioactivity?

- a. Elimination of CRUD bursts.
- b. Elimination of the iodine spiking phenomenon.
- c. Allows faster cleanup by the CVCS Mixed Bed Demineralizer
- d. Prevents a release of activity in the event of a steam generator tube rupture.

*ANSWER

d. [+1.0]

*REFERENCE

1. Technical Specifications, 3.4.8 and Bases, p. B 3/4 4-6.
2. KA 2.3.11 (3.2)

87

*QNUM 39119

*HNUM 40113 (Do NOT change If < 9,000,000)
*ANUM 39129
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1994/02/21
*FAC 483 Callaway
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 000059G010 New
*QUESTION

A radwaste release is in progress, High Radiation alarm PK11-21 annunciator actuates.

Which ONE of the following lists the required action?

- a. Verify FCV-477, closes and check PPC (plant process computer) to validate the alarm per approved release permit.
- b. Notify Radwaste and verify RCV-18 is open.
- c. Check process monitors, then verify RCV-18 is closed and FCV-477 is open.
- d. Check process monitors, then verify RCV-18 is open and FCV-477 is closed.

*ANSWER

c.

*REFERENCE

AR PK11-21 STG G1
000059G2.3.11 [2.7/3.2]

88

Step 14 of FR-C.1, "Response To Inadequate Core Cooling" directs the operator to stop all RCPs prior to depressurizing all intact SGs from 140 psig to atmospheric pressure. Which ONE (1) of the following is the reason for this action?

- A Remove RCP heat load from RCS
- B Ensure core exit thermocouple temperature will be reduced
- C Ensure RCP number 1 seal integrity
- D Enhance natural circulation cooling of the reactor core

ANSWER:C

89

*QNUM 19691
*HNUM 19807 (Do NOT change If < 9,000,000)
*ANUM 19700
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1990/07/30
*FAC 483 Callaway
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 073000A401 (3.9/3.9) NEW
*QUESTION
WHICH ONE (1) of the following radiation monitor(s) isolates the steam generator blowdown outside containment valves AND closes the isolation valves of the steam generator blowdown sample system?

a. RM-19 or RM-23

b. RM-22.

c. RM 17A or !7B.

d. RM-48
*ANSWER
a. [+1.0]
*REFERENCE
1. STG G4
2. K/A

90

1.00

A LOCA has occurred. In response to a RED path on the CORE COOLING Critical Safety Function Status Tree, FR-C.1, "Response to Inadequate Core Cooling," is currently in progress.

Containment hydrogen concentration is 4.1%.

What action should be performed with the hydrogen recombiners, and why?

- A. Operate the hydrogen recombiner system to reduce the hydrogen concentration.
- B. Operate the hydrogen recombiners after receiving additional guidance from engineering.
- C. Do NOT operate the hydrogen recombiners since they could result in ignition of the hydrogen.
- D. Do NOT operate the hydrogen recombiners since the hydrogen recombiner system will not be effective at this concentration.

Answer: C

Reference Id: B-0140 Exam Bank B #92 KA028A2.03 (4.0)
Must appear: No
Status: Active
User Text: 5018.120004
User Number 1: 3.40
User Number 2: 4.30
Difficulty: 2.00
Time to complete: 5
Topic: FR-C.1 CONTAINMENT HYDROGEN ACTIONS
Cross Reference: FR-C.1, STEP 9.B (CAUT),
Comment: REF: Response to Inadequate Core Cooling
VALIDATION DATE: 2/6/91
updated 2/22/95 by jfb1
Checked OK, 4/27/96, GES
Taken to Revise for "B" exam bank work. 1/28/97 jpsj
Checked. Minor editorial changes. 1/29/97 wkd2n
Pedigree and ratings check OK 2/1/97 JLE7
Validated. Taken to Review status. 2/5/97 wkd2
Taken to ACTIVE after review. 2/8/97 jmh1
Checked as part of question review for biennial exam 12/22/98 MTC6

A Nuclear Engineer calculates core thermal power using a heat balance, but neglects the effects of RCP horsepower and of S/G blowdown being in service.

Which of the following best describes how this will effect the calculated value versus actual thermal power?

- A Both effects make the calculated value higher.
- B Neglecting RCPs makes the calculated value higher, neglecting blowdown makes it lower.
- C Neglecting RCPs makes the calculated value lower, neglecting blowdown makes it higher.
- D Both effects make the calculated value lower.

ANSWER:
DCPP

A
BANK A

358

KA G2.1.7

92

*QNUM 26201
*HNUM 26350 (Do NOT change If < 9,000,000)
*ANUM 26211
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1991/01/28
*FAC 483 Callaway
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 013000A402 (4.2/4.4) NEW
*QUESTION

Which ONE of the following conditions would prevent the Motor Driven AFW pumps from being secured following automatic actuation?

- a. AMSAC signal reset
- b. Both Main Feedwater Pumps relatched (reset).
- c. 12kV bus undervoltage
- d. Indicated Steam Generator level in 3 of the 4 SG's above the lo-lo

level setpoint.

*ANSWER

d.

*REFERENCE

STG J-6a;

93

*QNUM 26297
*HNUM 26446 (Do NOT change If < 9,000,000)
*ANUM 26307
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1991/01/28
*FAC 483 Callaway
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 026020K408 (4.3) NEW
*QUESTION

The plant has experienced a large break LOCA. SI, Phase B, and CTMT Spray have actuated. When should the Containment Spray Pump suction be transferred to the RHR Cold Leg from sump Recirculation?

- a. RWST level Lo alarm and a lo-lo spray additive tank level.
- b. RWST level Lo alarm and containment pressure greater than 22 psig.
- c. A lo-lo spray additive tank level alarm and containment pressure greater than 22 psig.
- d. RWST Level Lo Lo alarm and containment pressure greater than 22 psig.

*ANSWER

b.

*REFERENCE

EOP, E-0 STEP 6
E 1.3
STG I2

94

*QNUM 26303
*HNUM 26452 (Do NOT change If < 9,000,000)
*ANUM 26313
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1991/01/28
*FAC 483 Callaway
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 061000K404 (3.1/3.4) NEW
*QUESTION

Select the ONE statement which describes the Flow Control Valves for the Motor Driven Auxiliary Feedwater Pumps.

- a. The valves are electrohydraulically operated and provide automatic runout protection of the MDAFW pumps.
- b. The valves are motor operated and throttle close automatically at high flow rates to limit containment pressure increase caused by a steam line rupture in containment.
- c. The valves are air operated and throttle close automatically at high flow rates to prevent pump cavitation.
- d. The valves are electrohydraulically operated and throttle close automatically on a loss of hydraulic pressure.

*ANSWER

a.

*REFERENCE
STG D1

95

*QNUM 35166
*HNUM 35926 (Do NOT change If < 9,000,000)
*ANUM 35176
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1993/03/15
*FAC 482 Wolf Creek
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 063000K302(3.5/3.7) NEW
*QUESTION

A loss of the unit 1 TD AFW will result DIRECTLY from a loss of which of the following 125 VDC buses?

- a. 1-1
- b. 1-2
- c. 1-3
- d. PD-15

*ANSWER
b.
*REFERENCE
STG J9

96

*QNUM 35171
*HNUM 35931 (Do NOT change If < 9,000,000)
*ANUM 35181
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1993/03/15
*FAC 482 Wolf Creek
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 033000A101 (2.7/3.3) NEW
*QUESTION

IDENTIFY the minimum elevation allowed in the fuel pool to ensure adequate water level above fuel during fuel movements.

a. 110 Ft

b. 115 Ft

c. 124 Ft

d. 137 Ft

*ANSWER

d.

*REFERENCE

STG B7; STG A2A and TS Bases 3/4.9.11

97

*QNUM 39138

*HNUM 40132 (Do NOT change If < 9,000,000)

*ANUM 39148

*QCHANGED FALSE

*ACHANGED FALSE

*QDATE 1994/02/21

*FAC 483 Callaway

*RTYP PWR-WEC4

*EXLEVEL S

*EXMNR

*QVAL

*SEC

*SUBSORT

*KA 007000A205 (3.2/3.6) NEW

*QUESTION

Which ONE (1) of the following describes the design volume and the rupture disk design pressure of the Pressurizer Relief Tank (PRT)?

a. 1800 cubic feet and 100 psig.

b. 2000 cubic feet and 110 psig.

c. 2400 cubic feet and 120 psig.

d. 2800 cubic feet and 140 psig.

*ANSWER

a.

*REFERENCE

STG A4B, Objs 2

98

1.00

The plant is operating at 100% steady state conditions. At 1200 hours on September 5th, chemistry reports the following RCS DOSE EQUIVALENT I-131 sample results for the past 4 hours:

- 0800 0.05 microcuries/gram
- 0900 0.045 microcuries/gram
- 1000 1.2 microcuries/gram
- 1100 75.0 microcuries/gram

What action is required to be taken?

- A. Restore the Dose Equivalent I-131 within the limits by 1000 Sept 7th, or be in HOT STANDBY by 1600 on Sept 7th.
- B. Be in at least HOT STANDBY with T_{avg} less than 500°F by 1600.
- C. Be in at least HOT STANDBY with T_{avg} less than 500°F by 1700.
- D. Restore the Dose Equivalent I-131 within the limits by 1100 on Sept 7th, or be in HOT STANDBY by 1700 on Sept 7th.

Answer: C

Reference Id: B-0539 Exam Bank B #296
Must appear: No
Status: Active
User Text: 9529.13ALLN
User Number 1: 3.20
User Number 2: 4.20
Difficulty: 4.00
Time to complete: 3
Topic: TECH SPECS IODINE LIMIT
Cross Reference: T.S. 3.4.8
Comment: RCS - Specific Activity (DEI)

VALIDATION DATE: 3/19/93

updated 3/1/95 by jfb1

Checked OK 5/6/96, GES

Taken to Revise for "B" exam bank work. 1/28/97 jpsj

Pedigree and ratings checked OK 2/1/97 JLE7

Question and references checked, 2/2/97 jpsj

Validated and taken to review. 2/4/97 by jdk5.

Taken to ACTIVE after review. 2/8/97 jmh1

Revised the question stem data to read "microcuries/gram" vice "mCi/gram" which was mistaken to be millicuries/gram. 7/21/97, jmb1

Checked as part of question review for biennial exam 12/22/98 MTC6

99

QNUM 39143
*HNUM 40137 (Do NOT change If < 9,000,000)
*ANUM 39153
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1994/02/21
*FAC 483 Callaway
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 000001A205 (4.4/4.6) NEW
*QUESTION

Which ONE of the following instrument failures will result in an uncontrolled control rod group withdrawal accident if rod control is in automatic?

- a. Turbine first stage pressure fails low.
- b. Auctioneered T-Hot fails high.
- c. Auctioneered T-Avg fails low.
- d. Power range channel N-43 fails high.

*ANSWER

c.

*REFERENCE

STG A3A,p 3-6 Obj 7

100

While observing the containment purge radiation monitor (RM44A) radiation display unit (RDU), you notice that the HIGH ALARM and CVI BYP status lights on the panel are both on.

Based solely on the indications at the RDU, which of the following is true regarding the containment purge CVI status?

- A. A CVI signal has been sensed and a CVI has occurred.

- B. The status is normal; high radiation on R-44A will cause a CVI.
- C. A CVI signal is sensed, but the CVI function is bypassed and it will not occur.
- D. A CVI has not been sensed, but CVI actions will occur when it is sensed.

ANSWER:C
DCPPBANK A238KA EK1.3

*QNUM 26246
*HNUM 26395 (Do NOT change If < 9,000,000)
*ANUM 26256
*QCHANGED FALSE
*ACHANGED FALSE
*QDATE 1991/01/28
*FAC 483 Callaway
*RTYP PWR-WEC4
*EXLEVEL S
*EXMNR
*QVAL
*SEC
*SUBSORT
*KA 000E16EK2.2 (3.0) NEW
*QUESTION

Which ONE of the following symptoms would most clearly differentiate between a large LOCA and a large Main Steam Line break inside containment?

- a. increasing containment radiation levels
- b. increasing containment sump levels
- c. increasing containment pressure
- d. decreasing pressurizer pressure

*ANSWER

a.

*REFERENCE
E-0; E-1