Question Data for Test: AUGUST 2001 SRO

Question: 145

To return the plant to a stable condition during a transient, Operations personnel need to enter a High Radiation Area that does not have an existing Radiation Work Permit (RWP).

Which of the following will meet the MINIMUM requirements for an Equipment Operator to enter the area.

- [ ] A Must be accompanied by an Advanced Rad Worker (ARW) qualified individual.
- [ ] B Entry into the area is not permitted without the Radiation Protection Manager (RPM) permission.
- [x] C Must be accompanied by a Level II Radiation Protection Technician qualified individual.
- [ ] D Entry into the area is not permitted until activation of the Emergency Plan.

Explanation of Answer: HP-C-310 in a effort to return the plant to a stable condition a Level II (ANSI 3.1) RP Technician may act in lieu of a formal RWP to assist workers

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	N/A

KA Information

Tier: PWGs | RO Grp: 3 | SRO Grp: 3 | RO Val: 2.6 | SRO Val: 3.0 | 55.43 ☐

System: Generic

KA Group Num: 2.3 — Radiation Control

KA Detail Num: 2.3.1 — Knowledge of 10CFR20 and related facility radiation control requirements.

Question Source Information

Ques Source: 2001 PBAPS NRC Exam

Question Source:

Ques Mod Met: N/A

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Radiation Work Permits	PLOT-1760	II.C	6	14	4

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Radiation Work Permit Program	HP-C-310	7.12		3	

Question Data for Test: AUGUST 2001 SRO

Question: 284

Unit 2 has experienced a Loss of Coolant Accident. Preparations are being made to vent the primary containment in accordance with T-200, "Primary Containment Venting". One EO has been directed to perform T-200C-2, "Containment Venting via the 6 Inch ILRT Line from the Torus". He contacts the Control Room and asks whether you want him to electrically or mechanically position the 6 inch ILRT valves.

Which one of the following identifies the method that may minimize dose to the E.O. AND why dose would be minimized?

- ☐ A. Mechanical positioning is from a lower dose area in the Reactor Building.
- ☐ B. Mechanical positioning is from a remote location outside the Reactor Building.
- ☑ C. Electrical positioning is from a lower dose area in the Reactor Building.
- ☐ D. Electrical positioning is from a remote location outside the Reactor Building.

Explanation of Answer:

A. Incorrect - Mechanical is at valve location in same proximity as the vent ling.
B. Incorrect - Not possible since the valves are in the reactor building.
C. Correct - Electrical positioning is performed at a panel on RB 135 ft East wall.
D. Incorrect - Electrical positioning is performed in RB 135'.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: PWGs RO Grp: 2 SRO Grp: 2 RO Val: 2.9 SRO Val: 3.3 55.43 ☐

System: Generic

KA Group Num: 2.3 — Radiation Control

KA Detail Num: 2.3.10 — Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure.

Question Source Information

Ques Source: 2001 NRC Exam Question Source: 2001 NRC Exam

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Containment Venting via 6" ILRT	T-200C-2	4	3	5	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
PBAPS TRIPS	PLOT-1560	C	10	8	13

3

Question Data for Test: AUGUST 2001 SRO

Question: 325

A condition exists in which T-101 "RPV Control", T-102 "Primary Containment Control", and T-112 "Emergency Blowdown" are ALL entered.

With respect to Trip Flowchart implementation, the CRS is expected to:

- ☐ A — annotate a step as "NA" when plant conditions do not allow a step to be performed.
- ☑ B — progress through the applicable flowcharts until exit requirements are met.
- ☐ C — ensure each step directed is fully completed before directing sequential steps.
- ☐ D — erase and re-initialize Trip Flowcharts when a re-entry condition occurs.

Explanation of Answer

A. Incorrect - When plant conditions do not allow a step to be performed, it is annotated with an "X".
B. Correct - The CRS is expected to progress through flowcharts until exit requirements are met.
C. Incorrect - Steps may be ordered and circled until reports by operators indicate the step is complete. The CRS may progress with the Trips after the step is ordered.
D. Incorrect - Trips do not have to be re-initialized.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: PWGs RO Grp: 2 SRO Grp: 2 RO Val: 3.3 SRO Val: 3.9 55.43 ☐

System: Generic

KA Group Num: 2.4. — Emergency Plan and Procedures

KA Detail Num: 2.4.13 — Knowledge and use of Crew roles and responsibilities during EOP flowchart use.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
CRS Use of Trip Procedures-Gene	NOM-C-10.2:1	3.0	2	0	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
NOM Chapters 6-10	PLOT-1527	II	2	0	1q

4

Question Data for Test: AUGUST 2001 SRO

Question: 326

SE-10 "Plant Shutdown From the Alternative Shutdown Panels" has been entered due to a fire in the Cable Spreading Room. The Unit 2 URO will be controlling _____(1)_____ from the _____(2)_____ .

- [ ] A (1) RCIC (2) Radwaste Building
- [ ] B (1) RCIC (2) Recirc MG-Set Room
- [ ] C (1) HPCI (2) Radwaste Building
- [x] D (1) HPCI (2) Recirc MG-Set Room

Explanation of Answer

A. Incorrect - SE-10 does not direct remote operation of RCIC..
B. Incorrect - RCIC not controlled from Recirc MG-Set room.
C. Incorrect - HPCI is not controlled from Radwaste AND the Radwaste Building is the location of the Remote Shutdown Panel, not the ASD Panel.
D. Correct - Unit 2 URO goes to the HPCI ASD Panel, located in the Recirc MG Set Room.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: PWGs | RO Grp: 2 | SRO Grp: 2 | RO Val: 3.8 | SRO Val: 3.6 | 55.43 ☐

System: Generic

KA Group Num: 2.4 — Emergency Plan

KA Detail Num: 2.4.34 — Knowledge of RO Tasks performed outside the Main Control Room during Emergency Operations including system geography and system implication.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Plant Shutdown from the Att Shutd	SE-10 Bases	ASD/R-1	19	12	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Special Event Procedures	PLOT-1555	II.B	7	5	12

5

Question Data for Test: AUGUST 2001 SRO

Question: 328

In accordance with NOM C-7.1.2 "Transient Acts", which of the following tasks can be performed by Reactor Operators during implementation of emergency operating procedures without immediate procedure references?

- [ ] A Manual initiation of ARI.
- [ ] B Manual initiation of HPCI via component manipulation.
- [x] C Manual initiation of Torus Sprays.
- [ ] D Manual insertion of control rods during an ATWS.

Explanation of Answer:
A. Incorrect - Rapid Response Card required.
B. Incorrect - Rapid Response Card required.
C. Correct
D. Incorrect - T-200 procedure.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: PWGs RO Grp: 2 SRO Grp: 2 RO Val: 3.4 SRO Val: 3.9 55.43 ☐

System: Generic

KA Group Num: 2.4 Emergency Plan

KA Detail Num: 2.4.12 Knowledge of general operating crew responsibilities during emergency operations.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Transient Acts	NOM-C-7.1:2	1.0	2	0	
Nuclear Operatins Manual	PLOT-1527	II.2	6	0	1q

6

Question Data for Test: AUGUST 2001 SRO

Question: 329

Unit 2 is shutdown in MODE 5, with the core completely offloaded. The 2D RHR Pump is running in the Fuel Pool Assist Mode.

In accordance with FH-6C "Core Component Movement - Core Transfers", identify the concern with starting the 2A Reactor Recirculation Pump.

- [x] A Excessive flow vibration on reactor vessel "In Core Instruments".
- [ ] B Reduction in water clarity within the reactor cavity.
- [ ] C Reduction in RPV level to less than 458 inches above instrument zero.
- [ ] D Excessive flow vibration on the reactor vessel fuel support pieces.

Explanation of Answer

A. Correct - FH-6C has numerous notes warning personnel to not start a recirc pump OR raise SDC flow to greater than 6500 gpm if IN-CORE instruments are not supported by blade guides OR bundles on all sides.
B. Incorrect - Not mentioned in FH-6C.
C. Incorrect - Not required with fuel off-loaded.
D. Incorrect - Fuel support pieces will not vibrate, and are not in-core.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: PWGs RO Grp: 1 SRO Grp: 1 RO Val: 2.5 SRO Val: 3.7 55.43 ☐

System: Generic

KA Group Num: 2.2. Equipment Control

KA Detail Num: 2.2.26 Knowledge of refueling administrative requirements.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Core Component Movement - Core	FH-6C	5.31	28	54	

7

Question Data for Test: AUGUST 2001 SRO

Question: 336

The purpose of the Rod Block Monitor System is to initiate rod blocks in order to:

- [ ] A prevent Simulated Thermal Power from exceeding setpoints as described in the Core Operating Limits Report (COLR).
- [ ] B suppress thermal hydraulic oscillations when reactor core instability is detected around the selected rod.
- [ ] C prevent exceeding fuel enthalpies of 280 calories per gram resulting from a single rod withdrawal error.
- [x] D prevent local fuel damage resulting from a single rod withdrawal error.

Explanation of Answer:

A. Incorrect - APRM function.
B. Incorrect - OPRM function.
C. Incorrect - RWM function.
D. Correct.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: PWGs RO Grp: 2 SRO Grp: 2 RO Val: 2.8 SRO Val: 2.9 55.43 [ ]

System: Generic

KA Group Num: 2.1 Conduct of Operations

KA Detail Num: 2.1.27 Knowledge of System Purpose and/or Function.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
PRNM/OPRM/RBM	PLOT-5060	II.A.3	10	3	7

8

Question Data for Test: AUGUST 2001 SRO

Question: 337

A plant start-up and heat-up is in progress on Unit 3 with both recirc pumps in service. The following data has been collected:

	RPV DRAIN TEMP	"A" RECIRC LOOP TEMP	"B" RECIRC LOOP TEMP
0915	221 degrees	250 degrees	252 degrees
0930	250 degrees	275 degrees	278 degrees
0945	275 degrees	305 degrees	308 degrees
1000	310 degrees	335 degrees	337 degrees
1015	315 degrees	349 degrees	354 degrees

Which one of the following describes the current heat-up rate?

The plant heat-up rate:

- [ ] A. Is within the Tech Spec LCO limit.
Additional control rods may be withdrawn in accordance with the GP-2-3 Appendix.
- [x] B. In NOT within the Tech Spec LCO limit.
Insert control rods in the reverse order of the GP-2-3 Appendix and take Tech Spec Actions.
- [ ] C. Is within the GP-2 "Normal Plant Start-up" limit.
Additional control rods may be withdrawn in accordance with the GP-2-3 Appendix.
- [ ] D. Is NOT within the GP-2 "Normal Plant Start-up" limit.
Insert control rods in accordance with GP-9-2, Appendix 1.

Explanation of Answer

A. Incorrect - While it is within the TS limit, it is outside of the administrative heat up rate defined in GP-2.
B. Correct - Heatup rate is in excess of the TS limit. GP-2 requires the operator to insert control rods in reverse order of the GP-2-3 Appendix.
C. Incorrect - Heatup rate is not within admin limit.
D. Incorrect - While heatup rate is outside the 80 F/HR limit, rods would not be driven in via GP-9-2.

Exam Level	Cognitive Level	Facility	Materials
Both	Application	PBAPS	

KA Information

Tier: PWGs RO Grp: 2 SRO Grp: 2 RO Val: 3.7 SRO Val: 4.4 55.43 ☐

System: Generic

KA Group Num: 2.1 Conduct of Operations

KA Detail Num: 2.1.7 Ability to evaluate plant performance and make operational judgements based on operating characteristics, reactor behavior, and instrument interpretation.

Question Source Information

Ques Source:	Bank	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Normal Plant Startup	GP-2	6.1.39	54	97	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
GP Procedures	PLOT-1530	II	14	12	3

(9)

Question Data for Test: AUGUST 2001 SRO

Question: 359

Units 2 and 3 were operating at 100% power when an earthquake occurred. As a result of this earthquake, both units have scrammed due to Loss of Coolant Accidents (LOCA's). There are valid LPCI initiation signals present on both units.

For Unit 2, the _____(1) RHR Pumps auto started, and for Unit 3, the _____(2)_____ RHR Pumps auto started.

- [x] A (1) A & B, (2) C & D
- [ ] B (1) A & C, (2) B & D
- [ ] C (1) C & D, (2) A & B
- [ ] D (1) B & D, (2) A & C

Explanation of Answer:
A. Correct - For loading purposes.
B. Incorrect - This would only allow one loop (A) for Unit 2 and (B) for Unit 3.
C. Incorrect - Wrong pumps.
D. Incorrect - This would only allow one loop (B) for Unit 2 and (A) for Unit 3.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	

KA Information

Tier: PWGs RO Grp: 2 SRO Grp: 2 RO Val: 2.8 SRO Val: 3.0 55.43 ☐

System: Generic

KA Group Num: 2.2 Equipment Control

KA Detail Num: 2.2.4 (Multi-unit) Ability to explain the variations in control board layouts, systems, instrumentation and procedural actions between units at a facility.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RHR System	PLOT-5010	II.D.6	33	2	4a

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RHR Response During LOCA	SO 10.7.B-2	4	6	6	

(10)

Question Data for Test: AUG 2001 NRC

Question: 33

Unit 2 is operating at 100% power.

Which of the following conditions will result in both Recirc flow controllers output being reduced to a value of 45%?

- [x] A. Total feedwater flow GREATER than 85% and any condensate pump trip.
- [ ] B. Individual feedwater flow LESS than 20% and any condensate pump trip.
- [ ] C. Total feedwater flow GREATER than 85% and Reactor level LESS than 17 inches.
- [ ] D. Reactor scram signal and Reactor level LESS than 17inches.

Explanation of Answer

A. Correct
B. Incorrect - wrong combination of signals
C. Incorrect - wrong combination of signals
D. Incorrect - 30% limiter signals

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	N/A

KA Information

Tier: SYS RO Grp: 1 SRO Grp: 1 RO Val: 3.1 SRO Val: 3.1 55.43 ☐

System: 216000 — Nuclear Boiler Instrumentation

KA Group Num: K4 — Knowledge of ___________system design feature(s) and/or interlocks which provide for the following:

KA Detail Num: K4.10 — Automatic Recirculation Pump Speed Control

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reactor Low Level	OT-101	4.0	2	9	
Recirc Flow Control	PLOT-0040	IV.B	15	8	5b

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Question Data for Test: AUGUST 2001 SRO

Question: 285

Unit 2 is operating at full power with the "B" Instrument Air Compressor blocked for maintenance. The "C" Instrument Air Compressor is supplying the "B" instrument air header, when it trips due to an electrical failure in the compressor motor.

Under these conditions, a complete loss of instrument air would occur upon the loss of:

- [ ] A ONLY the #1 Aux Bus.
- [ ] B ONLY the #2 Aux Bus.
- [x] C BOTH the #1 Aux Bus and the E-324 Bus.
- [ ] D BOTH the #2 Aux Bus and the E-324 Bus.

Explanation of Answer

A. Incorrect - would only trip the "A" compressor.
B. Incorrect - would only trip the "B" and "C" compressor and they are already secured.
C. Correct - would trip the "A" and B/U compressors.
D. Incorrect - The "A" compressor would still be available.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: SYS   RO Grp: 2   SRO Grp: 2   RO Val: 3.0   SRO Val: 3.0   55.43 ☐

System:	300000	Instrument Air System
KA Group Num:	K2	Knowledge of electrical power supplies to the following:
KA Detail Num:	K2.02	Emergency Air Compressor

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Compressed Air System	PLOT-5036	II.C.2.d	11	0	2

12

Question Data for Test: AUGUST 2001 SRO

Question: 287

Unit 3 is operating at 100% power. The running Fuel Pool Cooling pump trips due to overcurrent.

Under these conditions, fuel pool level will ____(1)_____ and skimmer surge tank level will ____(2)___.

- [ ] A (1) rise; (2) lower
- [ ] B (1) rise; (2) rise
- [ ] C (1) lower; (2) lower
- [x] D (1) lower; (2) rise

Explanation of Answer: Upon a trip of the fuel pool cooling pump, fuel pool level will lower to the top of the weirs, where it will equalize with skimmer surge tank level. Since the pump is no longer taking a suction on the skimmer surge tanks, skimmer surge tank level will rise.

Exam Level: Both
Cognitive Level: Comprehension
Facility: PBAPS
Materials: None

KA Information

Tier: SYS | RO Grp: 3 | SRO Grp: 3 | RO Val: 2.6 | SRO Val: 2.6 | 55.43 [ ]

System: 233000 Fuel Pool Cooling and Cleanup

KA Group Num: A3 Ability to monitor automatic operations of the ____ system including:

KA Detail Num: A3.02 Pump Trip(s)

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Fuel Pool Cooling & Cleanup	PLOT-5019	II.B.5	10	0	3b

(13)

Question Data for Test: AUG 2001 NRC

Question: 288

The following conditions exist on Unit 2:

* The plant was shutdown for a refueling outage 12 hours ago.
* Reactor Water Cleanup (RWCU) was in service vessel to vessel when the "A" RWCU pump tripped.
* The RWCU system is aligned, but the "B" RWCU pump has not yet been started.
* Shutdown Cooling has just been placed in service using the "D" RHR pump.
* Reactor pressure is 30 psig and lowering.

The RWCU Non-regenerative heat exchanger develops a 10 gpm leak due to a tube failure.

Which of the following indications would be expected?

- [ ] A. RBCCW radiation levels will rise.
- [x] B. RBCCW expansion tank level will lower.
- [ ] C. RWCU will automatically isolate.
- [ ] D. RWCU demin inlet temperatures will rise.

Explanation of Answer:
A. Incorrect - leak will be from RBCCW into RWCU
B. Correct
C. Incorrect - no isolation condition exists.
D. Incorrect - leakage of cooler water is into the RWCU system.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: SYS RO Grp: 2 SRO Grp: 2 RO Val: 2.7 SRO Val: 2.7 55.43 [ ]

System: 204000 Reactor Water Cleanup System

KA Group Num: K5 Knowledge of the operational implications of the following concepts as they apply to ___ system:

KA Detail Num: K5.04 Heat Exchanger Operation

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RWCU System	PLOT-5012	II.C.3	10	1	5

(19)

Question Data for Test: AUGUST 2001 SRO

Question: 289

Unit 2 is at 100% power when the 30 psig Instrument Air Flow Indicating Controller for the Standby Liquid Control system (SBLC) fails closed.

Which of the following indications is expected for this condition?

- ☐ A. Indicated level will rise, with annunciator 211 J-2, "STANDBY LIQUID TANK HI-LO LEVEL" in alarm.
- ☑ B. Indicated level will lower, with annunciator 211 J-2, "STANDBY LIQUID TANK HI-LO LEVEL" in alarm.
- ☐ C. Indicated level will oscillate. NO annunciators will alarm.
- ☐ D. Indicated level will fail as is. NO annunciators will alarm.

Explanation of Answer:

A. Incorrect - with a loss of air, indication fails low.
B. Correct
C. Incorrect - with a loss of air, indication fails low.
D. Incorrect - with a loss of air, indication fails low.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: SYS | RO Grp: 1 | SRO Grp: 1 | RO Val: 2.5 | SRO Val: 2.6 | 55.43 ☐

System: 211000 Standby Liquid Control System

KA Group Num: K1 — Knowledge of the physical connections and/or cause-effect relationships between ______ and the following:

KA Detail Num: K1.03 — Plant Air Systems

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
STBY Liquid Tank Hi-Lo Level	211 J-2	3	1	5	
Standby Liquid Control System	PLOT-5011	II.D.c	11	0	6a

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Question Data for Test: AUGUST 2001 SRO

Question: 291

Unit 2 is at 100% power when annunciator 231 A-3 "Jet Compressor Steam Flow Low" alarms. The Plant Reactor Operator monitors steam flow to the jet compressor, and reports that it is 7000 lbm/hr and steady. He also reports that MO-2991 A/B, "Jet Compressor Off-Gas Inlet Valves" FAILED TO CLOSE.

Evaluate the above conditions and predict how the Off-Gas system will respond.

- ☐ A. Off-Gas system flow will lower due to the auto closure of the Steam Jet Air Ejector (SJAE) suction valves.
- ☐ B. Main Condenser vacuum will improve due to the increased steam flow thru the SJAEs.
- ☐ C. Recombiner differential temperature will rise due to the loss of recombination.
- ☑ D. Off-Gas hydrogen concentration will rise due to the loss of dilution flow.

Explanation of Answer

A. Incorrect - SJAE suction valves auto close when MO-2991 A/B go 50% closed.
B. Incorrect - Vacuum will deteriorate slightly due to the reduced steam flow to the jet compressor.
C. Incorrect - Loss of recombination would lower differential temperature.
D. Correct

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: SYS | RO Grp: 2 | SRO Grp: 2 | RO Val: 3.2 | SRO Val: 3.7 | 55.43 ☐

System: 271000 — Off-Gas System

KA Group Num: A1 — Ability to predict and/or monitor changes in parameters associated with operating the ____ system controls including:

KA Detail Num: A1.13 — Hydrogen Gas Concentration

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Off-Gas Recombiner System	PLOT-5008	II.E.4.2	32	1	6d

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Question Data for Test: AUGUST 2001 SRO

Question: 295

Unit 3 is operating at 100% power when a valid Group III PCIS signal is generated. The following conditions exist:

* Both SBGT filter trains are aligned.
* SBGT system flow is less than expected.
* Secondary Containment to atmosphere differential pressure is less negative than expected.

Which of the following could be the cause of this condition?

- [x] A SBGT Fan Bypass Damper (PO-00522) fails to resposition as designed.
- [ ] B A Refuel Floor blowout panel is missing.
- [ ] C SBGT "B" Fan Vortex Damper (PO-00528) fails to reposition as designed.
- [ ] D A large steam leak has occurred in Secondary Containment.

Explanation of Answer

A. Correct, some flow is recirculated to fan suction.
B. Incorrect, results in high SBGT flow with a less negative dp.
C. Incorrect, results in high SBGT flow with more negative dp.
D. Incorrect, results in high SBGT flow with positive dp.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: SYS RO Grp: 1 SRO Grp: 1 RO Val: 3.2 SRO Val: 3.3 55.43 ☐

System:	261000	Standby Gas Treatment System
KA Group Num:	A3	Ability to monitor automatic operations of the ____ system including:
KA Detail Num:	A3.01	System Flow

Question Source Information

Ques Source: New Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Standby Gas Treatment	PLOT-5009A		17	0	3

(17)

Question Data for Test: AUGUST 2001 SRO

Question: 296

Unit 2 is operating at 100% power when a Group I isolation occurs. The following conditions exist:

* SBGT fails to start.
* RPV level is being controlled with HPCI, between +5" to +35".
* RPV pressure is being controlled between 950 psig to 1050 psig with SRVs.

If these conditions continue, which of the following is a potential consequence?

- [ ] A HPCI will isolate on High Area Temperarture.
- [x] B HPCI room airborne contamination levels will rise.
- [ ] C Gland Seal Vacuum Pump will trip on low flow.
- [ ] D Main Stack radiation levels will increase.

Explanation of Answer

A, Incorrect - SBGT does not significantly affect HPCI room temperature levels.
B. Correct - With a loss of SBGT, nonconsible gases will leak out of the HPCI vacuum tank.
C. Incorrect - There is no low flow trip on the gland seal vacuum pump. not enough forced flow.
D. Incorrect - With a loss of SBGT, there will be no appreciable flow to the Main Stack. Therefore, radiation levels will not increase.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: SYS RO Grp: 1 SRO Grp: 1 RO Val: 3.2 SRO Val: 3.5 55.43 [ ]

System: 261000 Standby Gas Treatment

KA Group Num: K3 Knowledge of the effect that a loss or malfunction of the ____ system will have on the following:

KA Detail Num: K3.05 Secondary Containment Radiation/Contamination Levels

Question Source Information

Ques Source: Bank Question Source: INPO

Ques Mod Met: Modified to be Peach Bottom specific.

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Standby Gas Treatment	PLOT-5009A	II.C.5.e. 2)	16	0	3

17

Question Data for Test: AUGUST 2001 SRO

Question: 302

A Loss of Coolant Accident (LOCA) results in entry into T-102 "Primary Containment Control". In response to the LOCA, all four emergency diesel generator automatically start, and are running unloaded. A fire breaks out in the E2 Diesel Generator Room.

The E2 Diesel Generator is protected by ____(1)____ initiation of the Cardox System. Once Cardox initiated, the E2 Diesel Generator will ____(2)_____.

- [x] A (1) manual, (2) trip
- [ ] B (1) manual, (2) continue to operate
- [ ] C (1) automatic, (2) trip
- [ ] D (1) automatic, (2) continue to operate

Explanation of Answer

A. Correct
B. Incorrect - After manual initiation of Cardox, the diesel will trip, even with a M.C.A. signal present.
C. Incorrect - Heat detector automatic initiation is defeated by an M.C.A. signal.
D. Incorrect - Heat detector automatic initiation is defeated by an M.C.A. signal.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	

KA Information

Tier: SYS | RO Grp: 2 | SRO Grp: 2 | RO Val: 3.3 | SRO Val: 3.3 | 55.43 [ ]

System:	286000	Fire Protection System
KA Group Num:	K4	Knowledge of Diesel Engine Protection system design feature(s) and/or interlocks which provide for the following:
KA Detail Num:	K4.07	Diesel Engine Protection

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Diesel Generator & Auxiliaries	PLOT-5052	II.K	32	3	4b

(13)

Question Data for Test: AUGUST 2001 SRO

Question: 303

Due to severe weather conditions, offsite power has been lost to both units. All four emergency diesel generators receive a start signal. The fuel oil transfer pump for the E-1 Diesel has failed.

The E-1 Diesel Generator will:

- [ ] A start AND operate for approximately seven days.
- [x] B start AND operate for approximately 2 to 3 hours.
- [ ] C NOT start due to low fuel oil pressure.
- [ ] D NOT start due to low crankcase pressure.

Explanation of Answer

A. Incorrect - With no fuel oil transfer pump, the day tank will have enough capacity for approximately 2.5 hours at full load.
B. Correct
C. Incorrect - Enough capacity for 2.5 hours.
D. Incorrect - Crankcase pressure will be satisfactory.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	

KA Information

Tier: SYS RO Grp: 1 SRO Grp: 1 RO Val: 3.0 SRO Val: 3.1 55.43 [ ]

System: 264000 Emergency Generators

KA Group Num: A3 Ability to monitor automatic operations of the EDG System including:

KA Detail Num: A3.01 Automatic starting of compressor and emergency generator.

Question Source Information

Ques Source: Bank

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Diesel Generators & Auxiliaries	PLOT-5052	II.C	23	2	6b

20

Question Data for Test: AUGUST 2001 SRO

Question: 310

Unit 3 is operating at 100% power when the high voltage power supply to LPRM detector 08-33C fails to 0 volts.

The_______(1)_______ light for LPRM 08-33C is lit on the Full Core Display which has a setpoint of ______(2)______.

A (1) "C HI/INOP" (2) greater than or equal to 105%.

B (1) "C HI/INOP" (2) greater than or equal to 100%.

✔ C (1) "C LO" (2) less than or equal to 3%.

D (1) "C LO" (2) 0%.

Explanation of Answer

A. Incorrect - Loss of detector voltage would cause detector output to fail low.
B. Incorrect - Loss of detector voltage would cause detector output to fail low.
C. Correct
D. Incorrect - Setpoint is less than or equal to 3%.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: SYS | RO Grp: 1 | SRO Grp: 1 | RO Val: 3.2 | SRO Val: 3.2 | 55.43

System: 215005 Average Power Range Monitor/Local Power Range Monitor System

KA Group Num: K1 — Knowledge of the physical connections and/or cause-effect relationships between ________ and the following:

KA Detail Num: K1.12 — Full Core Display

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
LPRM Upscale/Downscale	ARC-211 A5		1	5	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Power Range Neutron Monitor/Osc	PLOT-5060	II.D.1	32	3	1g

21

Question Data for Test: AUGUST 2001 SRO

Question: 311

Which of the following sources supplies power to RIS-2-17-150B "Air Ejector Discharge 'B' Log Monitor"?

- [ ] A 24 VDC from 2AD45
- [ ] B 125 VDC from 20D21
- [ ] C 120 VAC from RPS A
- [x] D 120 VAC from RPS B

Explanation of Answer: RIS-2-17-150B is power from 120 VAC from RPS B.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: SYS RO Grp: 2 SRO Grp: 2 RO Val: 2.5 SRO Val: 2.8 55.43

System: 272000 Radiation Monitoring System

KA Group Num: K2 Knowledge of electrical power supplies to the following:

KA Detail Num: K2.03 Stack Gas Radiation Monitoring System

Question Source Information

Ques Source: 2001 NRC

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Electrical Schematic Diagram	M-1-S-26		10	49	
Process Radiation Monitoring Syst	PLOT-5063			0	6

22

Question Data for Test: AUGUST 2001 SRO

Question: 327

Unit 2 is operating at 80% power when a loss of the 2A RPS MG set occurs.

Which one of the following identifies the expected Power Range Neutron Monitor plant response?

- [x] A. All Quad Low Voltage Power Supplies lose one of the input power supplies.
- [ ] B. Two Quad Low Voltage Power Supplies lose input power.
- [ ] C. APRM Channels 'A' and 'C' lose power.
- [ ] D. APRM Channels 'B' and 'D' lose power.

Explanation of Answer:
A. Correct
B. Incorrect - Each Quad Low Voltage Power Supply has two redundant power supplies (RPS 'A' and 'B').
C. Incorrect - Each APRM chassis has an alternate power supply.
D. Incorrect - Each APRM chassis has an alternate power supply.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: SYS | RO Grp: 1 | SRO Grp: 1 | RO Val: 2.6 | SRO Val: 2.8 | 55.43 ☐

System:	215005	Average Power Range Monitor/Local Power Range Monitor System
KA Group Num:	K2	Knowledge of electrical power supplies to the following:
KA Detail Num:	K2.02	ARPM Channels

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

23

Question Data for Test: AUGUST 2001 SRO

Question: 332

Unit 2 is in MODE 2 performing a reactor startup. Control rod withdrawal has begun but the reactor is still subcritical.

Which of the following describes the expected response if power to the "2B 24/48 VDC Distribution Panel (20D45) is lost?

- [ ] A — WRNM channels A,C,E, and G ODAs deenergize on panel 20C05.
- [ ] B — WRNM channels B, D, F, H ODAs deenergize on panel 20C05.
- [ ] C — 'A' Channel RPS Half Scram and a Rod Block.
- [x] D — 'B' Channel RPS Half Scram and a Rod Block.

Explanation of Answer

A. Incorrect - WRNM Channels A, C, E and G ODAs will not deenergize.
B. Incorrect - WRNM Channels B, D, F and H ODAs will not deenergize.
C. Incorrect - This loss of power causes a "B" RPS half scram and rod block.
D. Correct

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	

KA Information

Tier: SYS | RO Grp: 1 | SRO Grp: 2 | RO Val: 3.6 | SRO Val: 3.8 | 55.43 [ ]

System: 215003 — Intermediate Range Monitor (IRM)

KA Group Num: K6 — Knowledge of the effect that a loss or malfunction of the following will have on the ____ system.

KA Detail Num: K6.02 — 24/48 VDC Power

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
'B' WRNM Trip/Inop	ARC-210 H-3	1	1	4	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
WRNM	PLOT-5060C	II.D	16	2	4a

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
WRNM	PLOT-5060C	II.D	16	2	4b

24

Question Data for Test: AUGUST 2001 SRO

Question: 333

Unit 2 is operating at 100% power when a steam leak occurs in the Reactor Building. The Reactor Building exhaust duct radiation monitors reach the PCIS Group III setpoint. All systems operate as expected EXCEPT that both SBGT filter inlet dampers fail to open.

Which of the following would occur due to this event with no further operator action?

- [ ] A. Higher release rates through the Main Stack due to fission products not being adequately filtered.
- [x] B. An unfiltered ground-level radioactive release due to the Reactor Building not being maintained at negative pressure.
- [ ] C. Higher release rates through the Unit 2 Vent Stack due to forced flow from the Reactor Building.
- [ ] D. A monitored ground-level radioactive release due to the Reactor Building not being maintained at negative pressure.

Explanation of Answer

A. Incorrect - SBGT would not be exhausting Reactor Building Air.
B. Correct
C. Incorrect - Reactor Building Vent dampers close to isolate building from Vent Stack.
D. Incorrect - The release would not be through a monitored path.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: SYS RO Grp: 2 SRO Grp: 1 RO Val: 3.8 SRO Val: 4.0 55.43 ☐

System:	290001	Secondary Containment
KA Group Num:	K6	Knowledge of the effect that a loss or malfunction of the following will have on the ___ system.
KA Detail Num:	K6.03	SBGT

Question Source Information

Ques Source: New Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Standby Gas Treatment	PLOT-5009A	II.E.1	20	0	3a

25

Question Data for Test: AUGUST 2001 SRO

Question: 342

Unit 2 is operating near End-of-Cycle with core flow at 100%. While performing ST-O-098-01N-2, "Daily Surveillance Log", how would you expect the Narrow Range Reactor Level Indication to compare to the Wide Range Reactor Level indication?

- [ ] A. Wide Range indicates higher due to higher flow near the Wide Range Variable leg tap.
- [x] B. Wide Range indicates lower due to higher flow near the Wide Range Variable leg tap.
- [ ] C. Narrow Range indicates higher due to higher flow near the Narrow Range Variable leg tap.
- [ ] D. Narrow Range indicates lower due to higher flow near the Narrow Range Variable leg tap.

Explanation of Answer:
A. Incorrect - Higher flow near variable leg tap reduces pressure on variable leg which causes indication to be lower.
B. Correct
C. Incorrect - Narrow Range Indicator Variable leg is not affected by increased flow.
D. Incorrect - Narrow Range Indicator Variable leg is not affected by increased flow.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: SYS RO Grp: 1 SRO Grp: 1 RO Val: 2.9 SRO Val: 3.2 55.43 ☐

System: 216000 — Nuclear Boiler Instrumentation

KA Group Num: A1 — Ability to predict and/or monitor changes in parameters associated with operating the ___ system controls including:

KA Detail Num: A1.03 — Surveillance Testing

Question Source Information

Ques Source: New Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reactor Vessel Instrumentation	PLOT-5002B	II.C25.f	21	0	5

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Daily Surveillance Log	ST-O-098-01N-2		10	32	

24

Question Data for Test: AUGUST 2001 SRO

Question: 345

Unit 2 experienced a LOCA inside the primary containment. T-112 "Emergency Blowdown" is in progress with all 5 ADS Safety Relief Valves open. Current conditions are as follows:

* RPV level: -170 inches
* RPV pressure: 390 psig
* DW pressure: 10 psig
* All ECCS pumps are running

Based on the above conditions, MO-25A "RHR Inboard Valve" is _____(1)_____ and AO-2-10-46A "Testable Check Valve" is _____(2)_____.

- [ ] A (1) open, (2) open
- [ ] B (1) closed, (2) open
- [x] C (1) open, (2) closed
- [ ] D (1) closed, (2) closed

Explanation of Answer:

A. Incorrect - MO-25 opens at 450 psig, but with RPV pressure at 390 psig, it is above the shut off head of the RHR pumps, therefore, the testable check valve is closed.
B. Incorrect - MO-25A would be open, AO-2-10-46A would be closed.
C. Correct
D. Incorrect - MO-25A would be open.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	

KA Information

Tier: SYS RO Grp: 1 SRO Grp: 1 RO Val: 2.7 SRO Val: 2.7 55.43 [ ]

System:	203000	RHR/LPCI Injection Mode
KA Group Num:	A4	Ability to manually operate and/or monitor in the control room:
KA Detail Num:	A4.14	Testable Check Valves

Question Source Information

Ques Source: New Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RHR System	PLOT-5010	II.12	22	2	5a

27

Question Data for Test: AUGUST 2001 SRO

Question: 355

The following conditions exist for Unit 2:

* Following a transient T-101 has been executed.
* Reactor pressure is being controlled using Reactor Water Cleanup (RWCU) in the Recirc Mode.
* T-227-2 "Defeating RWCU Isolation Interlocks" has been implemented.
* Moments after placing RWCU in the Recirc Mode a pipe break occurs in the suction line of the operating RWCU Pump.

Reactor Building radiation levels initially rise until:

- [x] A the Group II Isolation occurs.
- [ ] B T-227-2 is removed.
- [ ] C the reactor is depressurized by another means.
- [ ] D a T-112 "Emergency Blowdown" is performed.

Explanation of Answer:

A. Correct - T-227-2 ONLY defeats low level and SBLC initiation isolation. All other isolations are still in effect.
B. Incorrect - GP II Isolation would occur on high RWCU flow.
C. Incorrect - GP II Isolation would occur on high RWCU flow.
D. Incorrect - GP II Isolation would occur on high RWCU flow.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	

KA Information

Tier: SYS RO Grp: 2 SRO Grp: 2 RO Val: 2.6 SRO Val: 2.7 55.43 [ ]

System: 204000 Reactor Water Cleanup System

KA Group Num: K3 Knowledge of the effect that a loss or malfunction of the ____ system will have on the following:

KA Detail Num: K3.06 Area Radiation Levels

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Defeating RWCU Isolation Interloc	T-227-2	1.0	1	3	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RWCU System	PLOT-5012	II.D.1	12	1	3e

23

Question Data for Test: AUGUST 2001 SRO

Question: 357

Unit 2 is being shutdown in accordance with GP-3. The following conditions exist:

* Control rods are being inserted to reduce power.
* RWM Group 2 is currently latched into the Rod Worth Minimizer (RWM).
* The last rod in Group 2 is selected and inserted to position 04.
* All other Group 2 rods are inserted to full in.
* The RO then selects the first rod in Group 1.

Which of the following describes the response of the RWM?

- [ ] A. When the Group 1 rod is selected, 222 F-1 "RWM ROD BLOCK" will alarm.
- [x] B. When the Group 1 rod is selected, the RWM will detect a select error.
- [ ] C. If the Group 1 rod is driven to 00, then all other Group 1 rods may be driven to 00.
- [ ] D. The RWM will not detect any errors and therefore will not generate any rod blocks.

Explanation of Answer:

A. Incorrect - NO rod block will be generated unless 2 insert errors or 1 withdraw error occur with power <LPSP.
B. Correct - Because the Group 2 rod is not at 00, a select error will be detected and indicated by the RWM.
C. Incorrect - Once the first Group 1 rod is moved, a RWM Block will occur.
D. Incorrect - A select error will be detected.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	

KA Information

Tier: SYS RO Grp: 2 SRO Grp: 2 RO Val: 3.1 SRO Val: 3.0 55.43 ☐

System:	201006	Rod Worth Minimizer System
KA Group Num:	A3	Ability to monitor automatic operations of the ____ system including:
KA Detail Num:	A3.03	Annunciator and Alarm Signals

Question Source Information

Ques Source: Bank

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Rod Worth Minimizer	PLOT-5062A	II.D.1	24	1	5h

29

Question Data for Test: AUG 2001 NRC

Question: 361

Unit 2 is operating at 100% power. The RCIC System is being aligned for normal operation in accordance with SO-13.1.A-2 "RCIC System Alignment For Automatic or Manual Initiation" after the completion of corrective maintenance. SO-13.1.A-2 directs the Reactor Operator to slowly bump open MO-16 "Steam Isolation" in 0.5 second intervals, until RCIC steam pressure begins to slowly rise.

What would be the consequences if MO-16 was opened too quickly?

- [x] A Inadvertent RCIC isolation on high steam flow.
- [ ] B Inadvertent RCIC trip on low pump suction pressure.
- [ ] C Excessive check valve slamming in the RCIC exhaust line.
- [ ] D Overpressurization of the RCIC steam line.

Explanation of Answer:

A. Correct - If MO-16 is opened too rapidly, a high steam flow condition will exist due to excessive differential pressure. This will isolate the RCIC System. The note in the procedure is the result of a plant event that occurred at PBAPS.
B. Incorrect - RCIC Pump will not have a low pressure condition.
C. Incorrect - This is only a concern during low speed operation.
D. Incorrect - RCIC steam line is rated for the pressure.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: SYS RO Grp: 1 SRO Grp: 1 RO Val: 3.3 SRO Val: 3.3 55.43

System: 217000 Reactor Core Isolation Cooling System

KA Group Num: A1 Ability to predict and/or monitor changes in parameters associated with operating the ____ system controls including:

KA Detail Num: A1.02 RCIC Pressure

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RCIC Sys Alignment for Auto Oper	SO-13.1.A-2	4:5	3	10	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RCIC System	PLOT-5013	II.E.1	27	0	1b

39

Question Data for Test: AUGUST 2001 SRO

Question: 362

Unit 2 is starting up after a refuel outage and is at 50% power. An Equipment Operator inadvertently opened the supply breaker to 20Y33.

How does this action affect the Inboard MSIVs?

- [x] A They remain open with normal position indication.
- [ ] B They remain open, but the position indication is lost.
- [ ] C They close with normal position indication
- [ ] D They close but the position indication is lost.

Explanation of Answer

A. Correct
B. Incorrect - Position indication lights are DC powered.
C. Incorrect - Both AC and DC solenoids must deenergize to close MSIVs.
D. Incorrect - The valves remain open.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: SYS RO Grp: 2 SRO Grp: 3 RO Val: 3.1 SRO Val: 3.3 55.43 [ ]

System: 239001 Main and Reheat Steam System

KA Group Num: K6 Knowledge of the effect that a loss or malfunction of the following will have on the ____ system:

KA Detail Num: K6.01 Electrical Power

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Main Steam and Pressure Relief	PLOT-5001A	II.C.5.j	27	1	6

31

Question Data for Test: AUGUST 2001 SRO

Question: 368

The following conditions exist on Unit 2:

* An electric ATWS has occurred.
* Current Reactor Power is 6%.
* Control Rods are being inserted using the Reactor Manual Control System.
* The RWM is NOT bypassed.

Which of the following describes the expected response when the URO places the "Emergency In/Notch Override" switch to the "Emergency In" position for an out of sequence rod?

- [x] A. The Control Rod will NOT move in until the RWM is first placed to BYPASS.
- [ ] B. The Control Rod will NOT move in until CRD Drive Header pressure is maximized.
- [ ] C. The Control Rod moves in. There are no restrictions with the use of "Emergency In".
- [ ] D. The Control Rod moves in followed by a "rod drift" annunciator when the switch is released.

Explanation of Answer:
A. Correct
B. Incorrect - The RWM needs to be bypassed.
C. Incorrect - The Control Rod does NOT move with an INSERT block unless the RWM is bypassed.
D. Incorrect - The Control Rod does NOT move with an INSERT block unless the RWM is bypassed.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: SYS   RO Grp: 1   SRO Grp: 2   RO Val: 3.4   SRO Val: 3.5   55.43 ☐

System: 201002 — Reactor Manual Control System

KA Group Num: K1 — Knowledge of the physical connections and/or cause-effect relationships between ____ and the following:

KA Detail Num: K1.05 — Rod Worth Minimizer

Question Source Information

Ques Source: Bank

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reactor Manual Control System	PLOT-5062		21	1	1

37

Question Data for Test: AUGUST 2001 SRO

Question: 373

Unit 2 scrammed and entered T-100 "Reactor Scram" due to a low RPV level condition. RCIC was started to restore RPV level to +5 to +35 inches. The following conditions exist:

* RPV level is -10 inches and lowering slowly.
* RPV pressure is 940 psig with EHC in control.
* All rods are inserted.
* RCIC discharge flow is 0 gpm.
* RCIC turbine speed is 2800 rpm.
* RCIC discharge pressure is 860 psig.

Continued operation of RCIC with the conditions as stated above will result in:

- [ ] A. isolating the RCIC turbine due to low flow.
- [x] B. draining the CST to the Torus via the RCIC Min Flow line.
- [ ] C. damaging the RCIC turbine exhaust check valve.
- [ ] D. damaging the RCIC turbine due to high lube oil temperatures.

Explanation of Answer

A. Incorrect - RCIC will isolate on low reactor pressure, not low flow.
B. Correct - Since there is not sufficient differential pressure between RCIC and the RPV, RCIC will be running on min flow. This will result in draining the CST to the Torus.
C. Incorrect - This would result if RCIC speed was less than 2200 rpm.
D. Incorrect - This would result from running RCIC from the Torus with high torus temperatures.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	

KA Information

Tier: SYS RO Grp: 1 SRO Grp: 1 RO Val: 2.6 SRO Val: 2.6 55.43 [ ]

System: 217000 — Reactor Core Isolation Cooling System

KA Group Num: K5 — Knowledge of the operational implications of the following concepts as they apply to _____ system:

KA Detail Num: K5.03 — Differential Pressure Indication

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RCIC Low Flow	222 A-1	3	1	2	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RCIC System	PLOT-5013	ii.E.1	27	0	5c

33

Question Data for Test: AUGUST 2001 SRO

Question: 376

I&C has determined that LIS-83A has failed high. This level switch sends a +6 inch Reactor Low Level confirmatory signal to the "A" ADS Logic. Prior to repairing LIS-83A, a small break LOCA occurs on Unit 2. Current plant conditions are:

* Drywell pressure is 3.2 psig and rising slowly.
* Reactor level is -150 inches and dropping slowly.
* Reactor pressure 650 psig and steady.
* HPCI is injecting at 5000 gpm.
* Reactor feedwater pumps are not available.
* RCIC is not available.

Five minutes after Reactor level drops below -160 inches, which of the following describes the expected trend on Reactor water level?

- [ ] A. Reactor level will continue to drop because only one channel of ADS will fail to actuate.
- [x] B. Reactor level will rise when ECCS pumps start on a LOCA signal, with an ADS initiation.
- [ ] C. Reactor level will continue to drop because both channels ADS will fail to actuate.
- [ ] D. Reactor level will rise when ECCS pumps start on a LOCA signal, with no ADS initiation.

Explanation of Answer:
A. Incorrect - ADS will actuate on Channel B, causing an ADS blowdown.
B. Correct
C. Incorrect - "B" channel of ADS will actuate, causing an ADS blowdown.
D. Incorrect - Reactor pressure is too high for low pressure ECCS to inject..

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: SYS RO Grp: 1 SRO Grp: 1 RO Val: 4.4 SRO Val: 4.4 55.43 [ ]

System: 218000 Automatic Depressurization System

KA Group Num: K3 — Knowledge of the effect that a loss or malfunction of the ____ system will have on the following:

KA Detail Num: K3.01 — Restoration of Reactor Water Level after break does not depress Reactor when required.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Autmoatic Depressurization Syste	PLOT-5001G		8	1	3

34

Question Data for Test: AUG 2001 NRC

Question: 377

The 2B Recirc Pump has spuriously runback to 30% speed. Troubleshooting to determine the cause has commenced. The following conditions exist:

* GP-9-2 Table 1 Rods have been inserted.
* The plant is NOT in Region 1 or Region 2 of the Power to Flow Map.
* The jet pump loop flows are outside the Tech Spec Limit of 10.25 Mlbm/hr, and cannot be restored within 1 hour.

In accordance with OT-112, "Unexpected/unexplained Change in Core Flow", the maximum speed allowed for the 2A Recirc Pump is _____(1)_____ to prevent _____(2)_____.

- [ ] A (1) 1700 rpm, (2) MG Set speed instabilities
- [ ] B (1) 1700 rpm, (2) Vessel Internal vibrations
- [ ] C (1) 1485 rpm, (2) MG Set speed instabilities
- [x] D (1) 1485 rpm, (2) Vessel Internal vibrations

Explanation of Answer

A. Incorrect - This is an MG Set limitation, but not from OT-112.
B. Incorrect - Incorrect speed, correct reason.
C. Incorrect - Correct speed, wrong reason.
D. Correct

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: SYS RO Grp: 1 SRO Grp: 1 RO Val: 3.1 SRO Val: 3.3 55.43 [ ]

System: 202002 Recirculation Flow Control System

KA Group Num: A2 Ability to (a) predict the impacts of the following on the ______; and (b) based on those predictions, used procedures to correct, control, or mitigate the consequences of those abnormal conditions or

KA Detail Num: A2.09 Recirculation Flow Mismatch

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reactor Recirculation/Recirculation	PLOT-5002		66	3	4

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Unexpected/unexplained Change i	ON-112	3.3.3	6	6	

35

Question Data for Test: AUGUST 2001 SRO

Question: 378

Unit 2 was operating at 100% power when annunciator 220 F-5 "Inverter Trouble" alarms. The Equipment Operator reports the following:

* Inverter Output Voltage is 145 VAC.
* "Load On Bypass" light is cycling between Off and On.
* "Load On Inverter" light is cycling between On and Off.

Based on the Equipment Operator's report, the Static Switch is cycling due to _____(1)_____, and the inverter shall be transferred to its alternate supply by operating the _____(2)_____.

- [x] A (1) High Current (2) "Load To Bypass" pushbutton.
- [ ] B (1) High Current (2) Manual Bypass Switch.
- [ ] C (1) Thermal Overloads (2) "Load To Inverter" pushbutton.
- [ ] D (1) Thermal Overloads (2) Manual Bypass/ Isolation Switch.

Explanation of Answer

A. Correct
B. Incorrect - The static switch is cycling due to high current (E=IR), if voltage is high, then current will also rise. SO procedures will direct that the inverter be transferred to its alternate source by depressing the "Load To Bypass" pushbutton, not the Manual Bypass switch.
C. Incorrect - The ARC identifies that the static switch will cycle on current. The "Load To Inverter" pushbutton will not transfer power to the alternate supply.
D. Incorrect - The ARC indicates that the static switch will cycle on high current. The Manual Bypass/Isolation is not correct.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: SYS | RO Grp: 2 | SRO Grp: 2 | RO Val: 2.5 | SRO Val: 2.7 | 55.43 ☐

System: 262002 — Uninterruptible Power Supply

KA Group Num: A2 — Ability to (a) predict the impacts of the following on the ____ system; (b) based on those predictions,use procedures to correct/control/mitigate the consequences of those abnormal conditions/operatio

KA Detail Num: A2.02 — Overvoltage

Question Source Information

Ques Source:	New	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
120 VAC Uninterruptible and 120 V	PLOT-5058		20	0	5

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Loss of Uninterruptible Power	ON-112	2.2	1.	7	

36

Question Data for Test: AUGUST 2001 SRO

Question: 380

Unit 2 is operating at 100% power when the voltage on the normal offsite feeder for the E-12 bus degrades to 89% and remains steady at that value. The PRO checks the status of the E-12 Bus after 2 minutes have elapsed.

In accordance with ARC 001 D-1 "E12 Bus Undervoltage", the PRO would expect to find the E-12 Bus energized from the _____(1)_____ and the crew will need to reset an _____(2)_____ isolation.

- [ ] A (1) alternate feed (2) outboard Group II isolation.
- [ ] B (1) E-2 Diesel Generator (2) outboard Group II isolation.
- [x] C (1) alternate feed (2) inboard Group II isolation
- [ ] D (1) E-2 Diesel Generator (2) inboard Group II isolation

Explanation of Answer

A. Incorrect -While the E-12 bus transfers to its alternate feed, an outboard Group II isolation does not occur.
B. Incorrect - E-12 transfers after 10 seconds (127E relay), E-1 D/G does not start. Also, an outboard Group II isolation does not occur.
C. Correct
D. Incorrect - E-12 transfers after 10 seconds (127E relay).

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: SYS RO Grp: 2 SRO Grp: 1 RO Val: 3.2 SRO Val: 3.6 55.43 ☐

System: 262001 A.C. Electrical Distribution

KA Group Num: A2 Ability to (a) predict the impacts of the following on the ___ system: (b) based on those predictions, use procedures to correct/control/mitigate the consequences of those abnormal conditions/operatio

KA Detail Num: A2.11 Degraded System Voltages

Question Source Information

Ques Source: Bank

Question Source:

Ques Mod Met

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
4 KV Distribution	PLOT-5054		22	3	6

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
E-12 Bus Undervoltage	ARC-001 D-1			6	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
4 KV Fast Transfer Load Shedding	SO-54.7.A	4.1	3	9	

37

Question Data for Test: AUGUST 2001 SRO

Question: 381

Which one of the following sets of plant conditions will ensure that the core is adequately cooled by causing the RHR system to automatically inject in the LPCI mode?

☐ A
Reactor Pressure 500 psig
Drywell Pressure 1.6 psig
Reactor Level -172 inches

☑ B
Reactor Pressure 200 psig
Drywell Pressure 1.6 psig
Reactor Level -172 inches

☐ C
Reactor Pressure 440 psig
Drywell Pressure 2.3 psig
Reactor Level -165 inches

☐ D
Reactor Pressure 70 psig
Drywell Pressure 1.6 psig
Reactor Level -150 inches

Explanation of Answer

A. Incorrect - Initiation logic satisfied, but injection logic is not.
B. Correct - Both the initiation AND injection logic are satisfied.
C. Incorrect - Both the initiation AND injection logic are satisfied, but Reactor pressure is > shut off head of RHR.
D. Incorrect - Both initiation AND injection logic ARE NOT satisfied.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: SYS RO Grp: 1 SRO Grp: 1 RO Val: 3.5 SRO Val: 3.7 55.43 ☐

System: 203000 RHR/LPCI: Injection Mode

KA Group Num: K5 Knowledge of the operational implications of the following concepts as they apply to _____ system:

KA Detail Num: K5.02 Core Cooling Methods

Question Source Information

Ques Source: Bank

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RHR	PLOT-5010	II.D.6	32	2	4a

38

Question Data for Test: AUGUST 2001 SRO

Question: 383

The following conditions are present on Unit 2:

* The 20Y050 panel is being supplied by the bypass (alternate) source following the operation of the (Static Inverter) Static Switch "Load to Bypass" pushbutton.

* The alternate supply breaker on E-124-R-C is inadvertently manually opened and left open.

Which one of the following statements describes the response of the Static Switch?

- [x] A. The Static Switch will NOT automatically transfer the 20Y050 panel back to the Static Inverter output. 20Y050 panel power will be lost until the Static Switch "Load to Inverter" pushbutton is operated.
- [ ] B. The Static Switch will NOT automatically transfer the 20Y050 panel back to the Static Inverter output. 20Y050 panel power will be lost until the Manual Bypass/Isolation Switch (MB/IS) is placed in the "BYPASS" position.
- [ ] ~~C~~. The Static Switch will automatically transfer the 20Y050 panel back to the Static Inverter output. 20Y050 panel power will be temporarily interrupted during Static Switch operation.
- [ ] D. The Static Switch will automatically transfer the 20Y050 panel back to the Static Inverter output. 20Y050 panel power will be maintained during Static Switch operation.

Explanation of Answer:

A. Correct
B. Incorrect - This will transfer to alternate which is deenergized.
C. Incorrect - Static Switch only auto transfers to the Inverter if it first "auto" transferred to the alternate.
D. Incorrect - Static Switch only auto transfers to the Inverter if it first "auto" transferred to the alternate.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: SYS | RO Grp: 2 | SRO Grp: 1 | RO Val: 3.1 | SRO Val: 3.3 | 55.43 ☐

System:	262001	A.C. Electrical Distribution
KA Group Num:	K3	Knowledge of the effect that a loss or malfunction of the ___ system will have on the following:
KA Detail Num:	K3.04	Uninterruptible Power Supply

Question Source Information

Ques Source:	Bank	Question Source	
Ques Mod Met	Modified stem and one distracter. Also order of distracters.		

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
120 VAC Uninterruptible and 120 V	PLOT-5058		16	0	5

39

Question Data for Test: AUGUST 2001 SRO

Question: 389

T-112 "Emergency Blowdown" is in progress on Unit 2. The following conditions exist:

* Torus pressure: 30 psig
* Drywell pressure: 34 psig
* Torus level: 14 feet
* Reactor pressure: 400 psig and dropping

At what reactor pressure would you expect to see the SRV's begin to close?

- [ ] A 130 psig
- [x] B 80 psig
- [ ] C 40 psig
- [ ] D 0 psig

Explanation of Answer

A. Incorrect - Pressure sufficiently above 50 psig.
B. Correct
C. Incorrect - Pressure sufficiently below 50 psig, valves would already be closed.
D. Incorrect - Pressure sufficiently below 50 psig, valves would already be closed.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: SYS RO Grp: 1 SRO Grp: 1 RO Val: 13. SRO Val: 3.2 55.43 [ ]

System: 239002 Relief/Safety Valves

KA Group Num: K4 Knowledge of ____ system design feature(s) and/or interlocks which provide for the following:

KA Detail Num: K4.07 Min. Steam Pressure required to keep SRV open or to open SRV.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Emergency Blowdown	T-112 Bases	EB-12	5	14	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
PBAPS Trips	PLOT-1560		3	8	9

40

Question Data for Test: AUGUST 2001 SRO

Question: 390

Both Units are operating at 100% power. The Drywell Chilled Water System is aligned as follows:

* 3A and 3B Drywell Chillers in service.
* 3B and 3C DWCW Pumps running.
* 3C Drywell Chiller in STBY.
* 3A DWCW Pump in STBY.

The #4 Auxiliary Bus becomes de-energized and cannot be restored.

Assume no operator action, which of the following describes the response of the DWCW System?

- [ ] A. The "3C" Drywell Chiller will be running supplying DWCW loads.
- [ ] B. The "3A" Drywell Chiller will be running supplying DWCW loads.
- [ ] C. The "3C" Drywell Chiller will be running and NOT supplying DWCW loads.
- [x] D. The "3A" Drywell Chiller will be running and NOT supplying DWCW loads.

Explanation of Answer

A. Incorrect - "3C" Drywell Chiller supplied from #4 Aux Bus.
B. Incorrect - "3A" Chiller will be running, RBCCW will be supplying loads.
C. Incorrect - "3C" Drywell Chiller supplied from #4 Aux Bus.
D. Correct

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: SYS RO Grp: 1 SRO Grp: 1 RO Val: 2.7 SRO Val: 2.9 55.43 ☐

System:	223001	Primary Containment System and Auxiliaries
KA Group Num:	K2	Knowledge of electrical power supplies to the following:
KA Detail Num:	K2.10	Drywell Chillers

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Drywell Chilled Water System	PLOT-5044		8,9,14	0	2

411

Question Data for Test: AUGUST 2001 SRO

Question: 391

The following conditions exist on Unit 2:

* The reactor is shutdown.
* "Rod Withdraw Block" alarm is in.
* Scram Discharge Volume level is 65 gallons.
* The Scram Discharge Volume Hi Level Bypass Switch is in "BYPASS".
* The Scram has been reset.

An "E-32 Bus Differential or Overcurrent Relays" alarm is received and the E-32 Bus trips and locks out.

Which of the following will occur?

- ☐ A — A half scram.
- ☑ B — A full scram.
- ☐ C — Outboard MSIVs close.
- ☐ D — Inboard MSIVs close.

Explanation of Answer:

A. Incorrect - Scram Discharge Volume Bypass must have both "A" and "B" RPS energized to remain in effect.
B. Correct
C. Incorrect - Only a half Group I when power is lost to Main Steam Line Rad Monitors. Does not isolate MSIVs.
D. Incorrect - Only a half Group I when power is lost to Main Steam Line Rad Monitors. Does not isolate MSIVs.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: SYS RO Grp: 1 SRO Grp: 1 RO Val: 3.6 SRO Val: 3.8 55.43 ☐

System: 212000 Reactor Protection System

KA Group Num: K6 Knowledge of the effect that a loss or malfunction of the following will have on the ____ system:

KA Detail Num: K6.01 A.C. Electrical Distribution

Question Source Information

Ques Source:	Modified	Question Source	
Ques Mod Met	Change stem (which changed answer) and one distracter.		

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Transferring Reactor Protection Sy	SO-60.F.6.A-2	3.0	1	10	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reactor Protection System (RPS)	PLOT-5060F		35	1	6

42

Question Data for Test: AUGUST 2001 SRO

Question: 392

Unit 2 is in MODE 5 with ALL fuel off loaded to the Spent Fuel Pool. The "B" Loop of RHR is lined up in the "Fuel Pool Cooling Assist" mode with the 2D RHR Pump. The "A" Loop of RHR is lined up in Shutdown Cooling with the 2A RHR Pump. A fault on the E-42 Bus results in annunciator 005-B1, "E-42 BUS DIFFERENTIAL OR OVERCURRENT RELAYS".

Which of the following is expected to occur?

- [ ] A. The E4 Diesel Generator starts and loads the E42 Bus, Shutdown Cooling remains in service.
- [ ] B. The E4 Diesel Generator starts and loads the E42 Bus, Fuel Pool Cooling Assist remains in service.
- [ ] C. The E4 Diesel Generator auto starts but does NOT load the E42 Bus, Shutdown Cooling is lost.
- [x] D. The E4 Diesel Generator auto starts but does NOT load the E42 Bus, Fuel Pool Cooling Assist is lost.

Explanation of Answer

A. Incorrect - E4 Diesel will auto start but its output breaker is locked out.
B. Incorrect - E4 Diesel is locked out, and the 2D RHR Pump will trip.
C. Incorrect - 2A RHR Pump is powered from the E12 Bus.
D. Correct

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	

KA Information

Tier: SYS | RO Grp: 3 | SRO Grp: 3 | RO Val: 2.8 | SRO Val: 2.9 | 55.43 ☐

System:	233000	Fuel Pool Cooling and Cleanup
KA Group Num:	K2	Knowledge of electrical power supplies to the following:
KA Detail Num:	K2.02	RHR Pumps

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
E42 Bus Differential or Overcurrent	005 B-1	1	1	2	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Residual Heat Removal	PLOT-5010	II.C.5.d	19	2	2

43

Question Data for Test: AUGUST 2001 SRO

Question: 395

Unit 2 is at 100% power with the "A" Main Steam Line Rad Monitor failed INOP. A loss of "B" RPS occurs.

Procedure _____(1)_____ is entered due to _____(2)_____.

- [x] A (1) T-101 "RPV Control" (2) High RPV pressure.
- [ ] B (1) T-101 "RPV Control" (2) Low RPV Level.
- [ ] C (1) T-103 "Secondary Containment Control" (2) Secondary Containment Temperature.
- [ ] D (1) T-103 "Secondary Containment Control" (2) Reactor Building High Differential Pressure.

Explanation of Answer:

A. Correct - The loss of RPS will cause a full Group I isolation (with the 'A' MSL rad monitor inop). A Group I isolation from full power will cause RPV pressure to increase above the T-101 entry condition.
B. Incorrect - RPV level will not drop to below the T-101 setpoint due to residual steam for the RFPTs.
C. Incorrect - Although Reactor Building Ventilation will isolate, since the reactor scrammed, the heat load will not cause Reactor Building temps to rise.
D. Incorrect - Although Reactor Building ventilation will isolate, Reactor Building DP will not increase to the T-103 entry off of the ARC.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	

KA Information

Tier: SYS RO Grp: 2 SRO Grp: 2 RO Val: 3.3 SRO Val: 3.6 55.43 ☐

System: 272000 Radiation Monitoring System

KA Group Num: A2 Ability to (a) predict the impact of the following on the ____ system; and (b) based on those predictions, use procedures to correct, control,or mitigate the consequences of those abnormal conditions

KA Detail Num: A2.02 Reactor Protection System Power Failure

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RPV Control	T-101	RC/P	1	17	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.C.2	16	8	1

44

Question Data for Test: AUGUST 2001 SRO

Question: 209

A trip of the "A" Reactor Recirculation Pump has resulted in entry into Region 2 of the Peach Bottom Unit 2 Power/Flow map.

Which one of the following indications would require a manual scram in accordance with OT-112, "Unexpected/Unexplained Change in Core Flow"?

- ☐ A Greater than a 10% difference between any two APRMs.
- ☑ B Greater than a 10% difference peak to peak on any APRM.
- ☐ C LPRM flux noise level rises from 2% to 3%.
- ☐ D OPRM trip setpoint exceeded on any single APRM.

Explanation of Answer

A. Incorrect - Similar to 10% diff between any two APRM flow values.
B. Correct - OT-112 THI Indication (2nd bullet).
C. Incorrect - Flux noise must increase by two or more times
D. Incorrect - Requires a trip of two channels of the OPRMs

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 2 RO Val: 3.3 SRO Val: 3.4 55.43 ☐

System: 295001 Partial or complete loss of forced core flow circulation.

KA Group Num: AA1 Ability to operate and/or monitor the following as they apply to:

KA Detail Num: AA1.06 Neutron Monitoring System

Question Source Information

Ques Source: 2001 NRC Exam

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Unexpected/Unexplained Change i	OT-112	2	1	31	
Recirc/Recirc Flow Control	PLOT5002	J	65		1.b

45

Question Data for Test: AUGUST 2001 SRO

Question: 275

Unit 3 is operating at 100% power when an unexplained positive reactivity addition causes the crew to enter OT-104 "Positive Reactivity Insertion". The operator is required to maintain power at least 10% below the initial power level using GP-9-3.

In accordance with OT-104, the basis for this step is to:

- ☐ A — avoid an APRM Rod Block.
- ☐ B — avoid an APRM Reactor Scram.
- ☐ C — raise the core inlet subcooling of the reactor.
- ☑ D — provide margin to the full power thermal limits.

Explanation of Answer:
A, B, C not the stated bases for the power reduction.
D - correct basis in accordance with OT-104.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: E/APE | RO Grp: 1 | SRO Grp: 1 | RO Val: 3.9 | SRO Val: 3.9 | 55.43 ☐

System:	295014	Inadvertent Reactivity Addition
KA Group Num:	AK2	Knowledge of the interrelations between ___ and the following:
KA Detail Num:	AK2.07	Reactor Power

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Positive Reactivity Insertion	OT-104	3.6.1	5	18	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Operational Transient Procedures	PLOT-1540		3	6	2

4b

Question Data for Test: AUGUST 2001 SRO

Question: 276

The following conditions exist on Unit 2:

* Drywell ventilation was operating in its normal lineup when a Loss of Coolant Accident occurred.
* Drywell pressure is 6 psig.
* Drywell temperature is 279 degrees F.
* DWCW return header pressure is 30 psig.
* The Reactor and Radwaste Buildings are not accessible.

For the conditions stated above, the Drywell coolers:
(T-223-2 Figure 1 Attached)

- [ ] A cannot be restarted until Reactor Building access is restored.
- [x] B cannot be restarted until an Engineering evaluation is obtained.
- [ ] C may be restarted in "Fast" speed.
- [ ] D may be restarted in "Slow" speed.

Explanation of Answer

A. Incorrect - DW/T & DWCW pressure plot on the unsafe side of Figure 1. Fan operation is not permissible without an Engineering evaluation.
B. Correct
C. Incorrect - DW/T & DWCW pressure plot on the unsafe side of Figure 1. With the Reactor Building inaccessible, fans would have to be started in Fast Speed if fan operation was determined to be permissible.
D. Incorrect - DW/T & DWCW pressure plot on the unsafe side of Figure 1 and the Reactor Building is inaccessible.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	T-223-2 Figure 1, Rev. 3

KA Information

Tier: E/APE RO Grp: 1 SRO Grp: 1 RO Val: 3.4 SRO Val: 3.5 55.43 [ ]

System: 295024 High Drywell Pressure

KA Group Num: EA1 Ability to operate and/or monitor the following as they apply to ____:

KA Detail Num: EA1.14 Drywell Ventilation System

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
TRIP Procedures	PLOT-1560		10	8	4

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Drywell Cooler Fan Bypass	T-223	2.4	1, 6	3	

47

Question Data for Test: AUGUST 2001 SRO

Question: 277

Unit 2 was operating at 100% power when the following conditions occurred:

* A small LOCA has occurred resulting in a reactor scram on high drywell pressure.
* An ATWS has occurred with 25 control rods failing to insert.
* Reactor water level was lowered to and maintained between -60 and -100 inches in accordance with T-240 "Termination and Prevention of Injection into the RPV".
* Reactor pressure is currently 950 psig.
* Standby Liquid Control Tank level has lowered by 36% and SBLC is still injecting.
* It has been 30 minutes since the ATWS began.

Which of the following will cause reactor power to rise for these conditions?

- ☐ A Placing HPCI in CST-to-CST to stabilize pressure.
- ☐ B The ADS system not being inhibited.
- ☑ C Continued pressure drop due to the LOCA.
- ☐ D Decreasing Xenon concentration from decay.

Explanation of Answer

A. Incorrect - HPCI would be prevented from being placed in CST because of RPV level and DW press interlocks.
B. Incorrect - with RPV level at -60 to -100 inches, the logic for ADS is not met.
C. Correct - RPV depressurization adds positive reactivity, which would cause reactor power to rise.
D. Incorrect - 30 minutes after ATWS, Xenon concentration would be increasing.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: E/APE RO Grp: 1 SRO Grp: 1 RO Val: 3.8 SRO Val: 4.1 55.43 ☐

System: 295037 — Scram Condition Present and Reactor Power Above APRM Downscale or Unknown

KA Group Num: EK2 — Knowledge of the interrelations between ____ and the following:

KA Detail Num: EK2.10 — Reactor Pressure

Question Source Information

Ques Source:	New	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RPV Control Bases	T-101	RC/P-14	30	22	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
TRIP Procedures	T-101		17	8	9

48

Question Data for Test: AUGUST 2001 SRO

Question: 280

Unit 2 was operating at 100% power with the "B" loop of Residual Heat Removal (RHR) blocked for maintenance. The following conditions occur:

* A break develops in the "A" Reactor Recirculation loop.
* Reactor scrams on high Drywell pressure.
* RPV level is -120 inches and rising.
* RPV pressure is 350 psig and lowering.
* Torus water temperature is 106 degrees F and rising.
* DW pressure is 15 psig and rising.
* DW Temperature is 260 degrees F and rising.

For these conditions, select the reason why Torus Cooling CANNOT be MAXIMIZED immediately.

- [ ] A. T-102 requires that the Drywell be sprayed with the "A" Loop of RHR.
- [ ] B. The RHR pumps cannot be stopped for transfer to Torus cooling for five (5) minutes.
- [ ] C. T-111 requires that injection be maximized with all systems, subsystems, and alternate subsystems.
- [x] D. The valve repositionings required for Torus cooling cannot be completed for five (5) minutes following a LOCA,

Explanation of Answer:
A. Incorrect - Drywell pressure and temperature plot outside the DWSIL curve.
B. Incorrect - There is no interlock that will prevent pumps from being stopped.
C. Incorrect - With RPV level > -172 inches and rising, there is no requirement to maximize injection.
D. Correct

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	Curve DW/T-2, DW Spray Initiation Limit

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 1 RO Val: 3.9 SRO Val: 3.9 55.43 ☐

System: 295013 High Suppression Pool Temperature

KA Group Num: AA1 Ability to operate and/or monitor the following as they apply to ____:

KA Detail Num: AA1.01 Suppression Pool Cooling

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RHR	PLOT-5010		23	2	4q

49

Question Data for Test: AUG 2001 NRC

Question: 293

Unit 2 was operating at 75% reactor power when a Group I isolation occurred.

Current plant conditions are:

* RPV pressure is 1050 psig and steady.
* Due to overfeeding with HPCI, RPV water level is high, and has caused a HPCI turbine trip.
* Narrow range level indicators (LI-2-06-094) indicate upscale.
* Wide range level indicators (LI-2-02-3-085) indicate +60 inches.
* Shutdown Range Instrument (LI-2-2-3-86) indicates +73 inches and steady.

Actual RPV level should be verified using ___(1)___, and RPV level is presently ___(2)___ the main steam lines. (Figure 1 attached)

- ☐ A (1) Wide range indication , (2) above
- ☐ B (1) Wide range indication, (2) below
- ☐ C (1) Shutdown Range Instrument , (2) above
- ☑ D (1)Shutdown Range Instrument , (2) below

Explanation of Answer:

A. Incorrect - Wide range level of +60 inches is pegged. Wide Range would be unavailable.
B. Incorrect - Wide range level of +60 inches is pegged. Wide Range would be unavailable.
C. Incorrect - RPV level is below the main steam lines.
D. Correct - RPV level is below the main steam lines.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	OT-110, Figure 1

KA Information

Tier: E/APE RO Grp: 1 SRO Grp: 1 RO Val: 3.7 SRO Val: 3.7 55.43 ☐

System:	295007	High Reactor Pressure
KA Group Num:	A2	Ability to determine and/or interpret the following as they apply to ____:
KA Detail Num:	AA2.03	Reactor Water Level

Question Source Information

Ques Source:	New	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reactor High Level - Bases	OT-110	3.1.2	6	6	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Operational Transient Procedures	PLOT-1540	II.B.1d.7	6	6	2

50

Question Data for Test: AUGUST 2001 SRO

Question: 294

Unit 2 was at 100% power when an unidentified leak into the primary containment caused an automatic reactor scram. The following conditions are present on Unit 2:

* All rods are inserted.
* RPV level is -5 inches and rising slowly.
* RPV pressure is 940 psig and dropping.
* House Loads have been transferred.

Based on the above conditions, reactor recirculation pump speed is presently ___(1)___ due to ___(2)___.

- [ ] A. (1) 45%, (2) A scram signal being present with RPV level less than +17 inches.
- [ ] B. (1) 45%, (2) Individual reactor feed pump flows less than 20% with RPV level less than +17 inches.
- [x] C. (1) 30%, (2) A scram signal being present with RPV level less than +17 inches.
- [ ] D. (1) 30%, (2) Individual reactor feed pump flows less than 20% with RPV level less than +17 inches.

Explanation of Answer:

A. Incorrect, condition is a 30% runback.
B. Incorrect , condition is a 45% runback
C. Correct
D. Incorrect, condition is a 45% runback

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: E/APE | RO Grp: 1 | SRO Grp: 1 | RO Val: 3.2 | SRO Val: 3.3 | 55.43 ☐

System:	295009	Low Reactor Water Level
KA Group Num:	K3	Knowledge of the reasons for the following responses as they apply to ____:
KA Detail Num:	AK3.01	Recirculation Pump Runback

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reactor Low Level	OT-100	4.0	3	9	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Operational Transient Procedures	PLOT-1540	II.B.1.d.1	6	6	5

(51)

Question Data for Test: AUG 2001 NRC

Question: 307

Fuel is being loaded into the Unit 2 reactor pressure vessel in accordance with FH-6C "Core Component Movement - Core Transfers".

In accordance with ON-124 "Fuel Floor and Fuel Handling Problems", which of the following requires the crew to take actions for "Criticality"?

Wide Range Neutron Monitoring:

- ☐ A. period peaks at 100 seconds between CCTAS steps.
- ☐ B. Short Period Alarm is received between CCTAS steps.
- ☐ C. count rate doubles between CCTAS steps.
- ☑ D. count rate increases by a factor of five between CCTAS steps..

Explanation of Answer:

A. Incorrect - Not an indication of criticality per FH-6C or ON-124 "Fuel Floor and Fuel Handling Problems".
B. Incorrect - Not an indication of criticality per FH-6C or ON-124 "Fuel Floor and Fuel Handling Problems".
C. Correct - Setpoint is if count rate doubles 2 times and continues to rise.
D. Incorrect - Count rate rising by a factor of 5 meets the criteria.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: E/APE RO Grp: 3 SRO Grp: 1 RO Val: 3.7 SRO Val: 4.0 55.43 ☐

System: 295023 Refueling Accidents

KA Group Num: AK1 Knowledge of operational implications of the following concepts as they apply to

KA Detail Num: AK1.03 Inadvertent Criticality

Question Source Information

Ques Source: Bank

Question Source:

Ques Mod Met: Stem and one distracter.

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Fuel Floor & Fuel Handling Proble	ON-124	2.1.4	5	6	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Off Normal Procedures	PLOT-1550	II.B.20	7	7	3

52

Question Data for Test: AUG 2001 NRC

Question: 308

The following conditions exist on the Unit 2 air system:

* The 2A Instrument Air Compressor is supplying the A Instrument Air header
* The 2B Instrument Air Compressor is shutdown, isolated, and its receiver is vented for maintenance
* The Service Air Compressor is supplying both the B Instrument Air header and the Service Air header.
* The Backup Instrument Air system is in its normal alignment.

The Service Air Compressor trips and cannot be restarted resulting in the depressurization of the both the B Instrument Air header and the Service Air header.

The Backup Air system ______(1)______ to supply the B Instrument Air header because ______(2)________.

- [ ] A — (1) lines up (2) it senses low pressure on the B Instrument Air header.
- [ ] B — (1) lines up (2) it senses low pressure on the Service Air Compressor receiver
- [x] C — (1) does NOT line up (2) it needs to sense low pressure on both Instrument Air headers
- [ ] D — (1) does NOT line up (2) it needs to sense low pressure on both Instrument Air receivers.

Explanation of Answer:
A. Incorrect - Backup Air does not align
B. Incorrect - Backup Air does not align
C. Correct
D. Incorrect - pressure sensing is on the Instrument Air header, not the receiver

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	0

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 2 RO Val: 3.3 SRO Val: 3.4 55.43 ☐

System: 295019 — Partial or Complete Loss of Instrument Air

KA Group Num: AK3 — Knowledge of the reasons for the following responses as they apply to:

KA Detail Num: AK3.01 — Backup Air System Supply

Question Source Information

Ques Source:	New	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Nitrogen Compressor A or B Troubl	ARC-228 E-2	1	1	7	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Instrument Nitrogen System	PLOT-5016	II.C.4	12	0	6A

53

Question Data for Test: AUG 2001 NRC

Question: 309

Unit 2 is operating at 100% power when a rupture of the instrument air header causes a total loss of instrument air. Identify which of the following instrument air loads responds as expected:

- [x] A — Drywell Instrument Nitrogen Header valves fail closed.
- [ ] B — CRD flow control valves fail open.
- [ ] C — Off Gas Jet Compressor Suction Valves fail closed.
- [ ] D — SBGT fan outlets fail closed.

Explanation of Answer:
A. Correct - AO2969A & B close resulting in a loss of Instrument N2 to drywell pneumatic valves.
B. Incorrect - CRD Flow Control Valves fail closed, resulting in a loss of CRD.
C. Incorrect - Off Gas Jet Compressor Suction Valves fail open.
D. Incorrect - Outlets fail open (fail safe).

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 2 RO Val: 3.6 SRO Val: 3.7 55.43 ☐

System: 295019 — Partial or Complete Loss of Instrument Air

KA Group Num: AA2 — Ability to determine and/or interpret the following as they apply to:

KA Detail Num: AA2.02 — Status of safety-related instrument air system loads.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Loss of Instrument Air	ON-119	Attachment 1		14	
Compressed Air System	PLOT-5036	II.E.2	19	0	3

54

Question Data for Test: AUGUST 2001 SRO

Question: 330

Unit 2 is operating at 100% power when a complete loss of off-site power occurs. All four (4) Diesel Generators start and power their respective 4KV Buses.

Under these conditions, which of the following will have cooling water flow available following the isolation of non-essential heat loads?

- [ ] A. Instrument Nitrogen Compressor Coolers.
- [x] B. Station Air Compressor coolers.
- [ ] C. RWCU Non-regenerative Heat Exchangers.
- [ ] D. Condensate Pump Motor Lower Bearing Cooler.

Explanation of Answer

A. Incorrect - No RBCCW flow because it's isolated.
B. Correct - RBCCW cooling water flow will be supplied.
C. Incorrect - No RBCCW flow because it's isolated.
D. Incorrect - No RBCCW flow because it's isolated.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: E/APE | RO Grp: 2 | SRO Grp: 2 | RO Val: 2.9 | SRO Val: 3.2 | 55.43 ☐

System:	295018	Partial or complete loss of component cooling water.
KA Group Num:	AK3	Knowledge of the reasons for the following response as they apply to:
KA Detail Num:	AK3.01	Isolation of non-essential heat loads.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Drywell Chilled Water System (DC	PLOT-5044	II.E.3	17	0	6f

55

Question Data for Test: AUG 2001 NRC

Question: 331

Unit 3 is operating at 70% power with elevated Main Steam Line Radiation levels due to a suspected fuel clad leak. A steam leak develops in the HPCI Room that cannot be isolated.

Which of the following describes the response of the Reactor Building and Refuel Floor Ventilation Systems?

- [x] A. Reactor Building and Refuel Floor ventilation isolates at 16 mr/hr.
- [ ] B. ONLY Reactor Building ventilation isolates at 16 mr/hr.
- [ ] C. Reactor Building and Refuel Floor ventilation isolates at 2 mr/hr.
- [ ] D. ONLY Reactor Building ventilation isolates at 2mr/hr.

Explanation of Answer:
A. Correct
B. Incorrect - Both Reactor Building and Refuel Floor Vent isolates.
C. Incorrect - 2mr/hr is the alarm setpoint.
D. Incorrect - Both Reactor Building and Refuel Floor Vent isolates. 2mr/hr is the alarm setpoint.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 2 RO Val: 3.7 SRO Val: 3.9 55.43 ☐

System: 295033 — High Secondary Containment Area Radiation Levels

KA Group Num: EK2 — Knowledge of the interrelations between _____ and the following:

KA Detail Num: EK2.03 — Secondary Containment Ventilation

Question Source Information

Ques Source: New Question Source:

Ques Mod Met:

References

52

Question Data for Test: AUGUST 2001 SRO

Question: 334

Unit 2 is operating at 100% power when PS/PT-2-5-11B "Main Condenser Low Vacuum Pressure Switch" failed. As a result of this, "GP-25 Appendix 2 - RPS Channel B" has been completed.

A fault on the E-32 bus results in an "E-32 Bus Differential or Overcurrent Relays" alarm, and subsequent loss of that bus.

Based on the above conditions, a:

- [ ] A half scram exists ONLY on RPS Bus "B".
- [ ] B half scram exists ONLY on RPS Bus "A".
- [x] C full scram exists due to the loss of power to E-324-R-B.
- [ ] D full scram exists due to the loss of power to the Static Inverter.

Explanation of Answer

A. Incorrect - A 1/2 scram already existed. When the E-32 bus deenergized, the power supply to "A" RPS was lost. This results in a full scram.
B. Incorrect - While RPS Bus 'A' will lose power due to the loss of E-32, a full scram condition would exist because GP-25 Appendix 2 deenergized RPV Bus 'B'.
C. Correct
D. Incorrect - E-32 Bus does not supply the static inverter.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 1 RO Val: 3.7 SRO Val: 3.7 55.43 ☐

System: 295003 Partial or Complete Loss of AC Power

KA Group Num: AK3 — Knowledge of the reasons for the following responses as they apply to:

KA Detail Num: AK3.05 — Reactor Scram

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reactor Protection	PLOT-5060F	II.C.1	17	1	6a

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reactor Protection	PLOT-5060F	II.C.1	17	1	6e

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
E-32 Bus Differ Overcurrent Relays	ARC-004 C-1	3	1	2	

57

Question Data for Test: AUG 2001 NRC

Question: 335

The following conditions have existed on Unit 2 for 20 minutes following a substantial fuel failure with an unisolable Primary System Breach in the Turbine Building:

* Reactor power is 30% and lowering.
* Vent Stack is reading 1E1 uCi/cc as read on RR-2979A/B and RI-2979A/B
* Main Stack is reading 1.2 E2 uCi/cc as read on RR-0-17-S1A/B and RI-51A/B
* Dose projections will be available in 2 hours.

In accordance with ERP-101 (attached) and based on the conditions above, what are the appropriate actions that need to be taken?

- [ ] A Reduce power in accordance with GP-9-2 "Fast Power Reduction".
- [ ] B Scram the reactor AND depressurize in accordance with GP-3 "Normal Plant Shutdown".
- [ ] C Scram the reactor AND depressurize in accordance with T-101 "RPV Control".
- [x] D Scram the reactor AND perform a Emergency Blowdown in accordance with T-112 "Emergency Blowdown".

Explanation of Answer

A. Incorrect - This would be correct if the Main and Vent Stack levels were below the Alert Level.
B. Incorrect - Even if rad levels were below the Alert Level, the depress would be per T-101.
C. Incorrect - Rad levels exceed General Emergency Levels.
D. Correct

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	T-104 and ERP-101

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 1 RO Val: 3.3 SRO Val: 3.6 55.43 ☐

System:	295017	High Offsite Release Rate
KA Group Num:	AK2	Knowledge of the interrelations between _____ and the following:
KA Detail Num:	AK2.10	Process Radiation Monitoring System

Question Source Information

Ques Source: Bank

Question Source:

Ques Mod Met

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Classification of Emergencies	ERP-101	5.1	15	22	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	5	18	8	5

58

Question Data for Test: AUG 2001 NRC

Question: 339

On August 13th during "Z" shift, T-104 "RAD RELEASE" has been entered. Step RR-3 directs that Dose Assessment calculations be initiated AND enter ERP-101 as appropriate.

In accordance with the Emergency Plan, who must be contacted to perform the INITIAL Dose Assessment calculations?

- [x] A. Limerick Shift Dose Assessment Personnel
- [ ] B. EOF Dose Assessment Personnel
- [ ] C. Peach Bottom Shift Dose Assessment Personnel
- [ ] D. Peach Bottom Operations HP

Explanation of Answer:

A. Correct - ERP-200-1 directs the Main Control Room to contact Limerick, and have their Shift Dose Assessment Personnel perform the calculations.
B. Incorrect - EOF Personnel are not required to perform the initial dose assessment calculation.
C. Incorrect - If a rad release occurred at Limerick, this would be correct.
D. Incorrect - This individual used to be the person who performed this task prior to LGS/PBAPS adoption of NUMARC EALs.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: E/APE　RO Grp: 2　SRO Grp: 1　RO Val: 3.0　SRO Val: 4.0　55.43 ☐

System:	295038	High Offsite Release Rate
KA Group Num:	2.4	Emergency Procedures and Plan
KA Detail Num:	G.2.4.16	Knowledge of EOP implementation hierarchy and coordination with other support procedures.

Question Source Information

Ques Source: New　Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Emergency Director Checklist	pendix ERP-200	1	1	3	

59

Question Data for Test: AUGUST 2001 SRO

Question: 340

Unit 2 has been operating at 100% power for 6 months. HPCI is in day 2 of a seven day TSA.
A loss of vacuum occurs and the crew scrammed the reactor in accordance with OT-106 "Condenser Low Vacuum".

The following conditions exist:

* Vacuum is 6" and getting worse.
* RPV pressure is 930 psig.
* RPV level is 30 inches.

With no operator action, reactor pressure will _____(1)_____ due to _____(2)_____.

- [x] A (1) increase, (2) beta and gamma decay
- [ ] B (1) decrease, (2) Bypass Valve Operation
- [ ] C (1) increase, (2) delayed neutron generation
- [ ] D (1) decrease, (2) RPV cooldown

Explanation of Answer:

A. Correct - BPV's close at 7" vacuum, with no heat sink, decay heat, which is comprised of the beta and gamma decay of fission products, will cause RPV pressure to increase.
B. Incorrect - BPV's close at 7" vacuum.
C. Incorrect - Delayed neutrons are not a significant contributor to decay heat.
D. Incorrect - With a loss of heat sink, the RPV will not cool down.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	

KA Information

Tier: E/APE RO Grp: 1 SRO Grp: 1 RO Val: 3.1 SRO Val: 3.4 55.43 ☐

System:	295007	High Reactor Pressure
KA Group Num:	AK1	Knowledge of the operational implications of the following concepts as they apply to:
KA Detail Num:	AK1.02	Decay Heat Generation

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Condenser Low Vacuum	OT-106	4.0	5	19	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reactor Theory					30

10

Question Data for Test: AUGUST 2001 SRO

Question: 341

Unit 2 was operating at 100% power when the 2A Reactor Recirculation pump trips. In accordance with OT-112 "Unexpected / Unexplained Change in Core Flow", what could make core flow indication invalid:

- ☐ A — Flow oscillations in the core.
- ☐ B — Increased core voiding.
- ☐ C — A lower core pressure drop.
- ☑ D — Reverse flow in the idle loop.

Explanation of Answer

A. Incorrect - Flow oscillations could be a consequence of T.H.I., but not a cause of inaccurate core flow indication.
B. Incorrect - Core voids increase and decrease as recirc pump speed changes. This will not invalidate flow indication.
C. Incorrect - A lower core pressure drop will be the result of a pump trip, but this will not cause invalid flow indication.
D. Correct - OT-112 Bases states reverse flow could invalidate flow indication.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 2 RO Val: 3.4 SRO Val: 3.4 55.43 ☐

System: 295001 — Partial or Complete Loss of Forced Core Flow Circulation

KA Group Num: AK2 — Knowledge of the interrelations between ___ and the following:

KA Detail Num: AK2.07 — Core Flow Indication

Question Source Information

Ques Source: New Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Unexpected Change in Core Flow	OT-112	2.4	3	33	

61

Question Data for Test: AUGUST 2001 SRO

Question: 350

Unit 3 is operating at 100% power when the following occurs:

* Annunciator 317 K-5, "Reac Bldg. Hi-Lo Diff Pressure" alarms.
* Annunciator 317 L-1, "Reac Bldg. Refueling Area Hi-Lo Diff Press" alarms.
* Reactor Building dP indicates +1inch and rising on DPI-30003-1.
* An Equipment Operator reports a large steam leak in the Unit 3 HPCI Room.

The ARC for Annunciator 317 K-5 will direct _____(1)_____ because _____(2)_____.

- [ ] A (1) entry into T-104, (2) of the potential for a rad release via the Vent Stack
- [x] B (1) entry into T-103, (2) of the potential for a rad release via the Refuel Floor blowout panels
- [ ] C (1) a plant shutdown in accordance with GP-3, (2) it will reduce the driving head of the steam leak
- [ ] D (1) an area evacuation in accordance with GP-15, (2) of the steam hazard in the HPCI Room

Explanation of Answer

A. Incorrect - Rx Bldg. Would isolate if exhaust rad reached set point preventing release via Vent Stack, ARC directs entry into T-103.
B. Correct
C. Incorrect - ARC does not direct GP-3. GP-3 not appropriate for steam leak in Reactor Building.
D. Incorrect - GP-15 evacuation is directed from T-103, not the ARC.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: E/APE | RO Grp: 3 | SRO Grp: 2 | RO Val: 3.7 | SRO Val: 4.2 | 55.43 ☐

System: 295035 — Secondary Containment High Differential Pressure

KA Group Num: EK1 — Knowledge of the operational implications of the following concepts as they apply to ____:

KA Detail Num: EK1.02 — Radiation Release

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reac Bldg Hi-Lo Diff Pressure	ARC-317 K-5	Actions	1	5	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Secondary Containment Control	T-103 Bases	General	2	12	

62

Question Data for Test: AUG 2001 NRC

Question: 356

Unit 2 was operating at 100% power when a Group I Isolation occurs. The reactor fails to fully scram due to a hydraulic ATWS. The following conditions exist:

* Reactor power: 12%
* Torus temperature: 100 degrees F and rising.
* Torus level: 15.0 feet
* DW instrument N2 has been restored.

With respect to reactor pressure control, _____(1)_____ in order to _____(2)_____.

- [ ] A (1) SRVs will be operated one at a time, (2) conserve SRV accumulator pressure
- [x] B (1) cycle different SRVs, (2) prevent uneven heat distribution in the Torus
- [ ] C (1) pressure should be lowered to 600 psig, (2) allow condensate to inject into the RPV
- [ ] D (1) pressure should be lowered to 700 psig, (2) minimize loading an SRV tailpipes

Explanation of Answer:

A. Incorrect - More than one SRV will have to be opened to control pressure. With DW Instrument N2 restored, there is no concern with accumulator pressure.
B. Correct - RRC 1G.2-2 has a precaution warning the operator to consider even heat distribution in the Torus when cycling multiple SRVs.
C. Incorrect - Because of the ATWS, level control will be via T-117. This method is not allowed with an ATWS.
D. Incorrect - At 15 feet, the SRV Tailpipe Limit is 1100 psig.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 1 RO Val: 2.5 SRO Val: 2.6 55.43 ☐

System: 295013 — High Suppression Pool Temperature

KA Group Num: AK1 — Knowledge of the operation implications of the following concepts as they apply to:

KA Detail Num: AK1.01 — Pool Stratification

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Relief Valve Manual Operation	RRC 19.2-2	1	1	1	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.C.2	16	8	9

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Question Data for Test: AUG 2001 NRC

Question: 363

The Rod Block Monitor (RBM) generates rod blocks during inadvertant reactivity additions to prevent exceeding ________(1)__________ due to high ________(2)__________.

- [ ] A (1) APRM Scram Setpoints (2) Localized Power
- [ ] B (1) APRM Scram Setpoints (2) Core Average Power
- [x] C (1) Safety Limits (2) Localized Power
- [ ] D (1) Safety Limits (2) Core Average Power

Explanation of Answer:
A. Incorrect - RBM setpoints do NOT prevent exceeding Average Power Range Monitor setpoints which monitor power core wide.
B. Incorrect - RBM monitors localized, not core average power.
C. Correct
D. Incorrect - RBM monitors localized, not core average power

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: E/APE RO Grp: 1 SRO Grp: 1 RO Val: 3.7 SRO Val: 3.7 55.43 ☐

System: 295014 — Inadvertent Reactivity Addition

KA Group Num: AK3 — Knowledge of the reasons for the following responses as they apply to ____:

KA Detail Num: AK3.02 — Control Rod Blocks

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Tech Spec Bases	TS	3.3.2.1	b3.3.46	0	
Power Range Neutron Monitor	PLOT-5060	II.c.7	26	3	1

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.

(64)

Question Data for Test: AUG 2001 NRC

Question: 364

Unit 2 was shutdown 20 hours ago. The 2D RHR Pump is lined up in shutdown cooling. RPV pressure is 30 psig. RPV level is being maintained between +5 and +35 inches. The following conditions occur:

* RPV level lowers to -10 inches.
* All appropriate PCIS isolations occur.

In this instance, raising RPV level to > +50 inches is necessary to:

- ☐ A — reset the Group II A isolation in order to return reactor water cleanup to service.
- ☐ B — reset the Group II B isolation in order to return shutdown cooling to service.
- ☑ C — promote natural circulation and help prevent stratification of coolant in the core.
- ☐ D — restore decay heat removal capabilities to prevent a heatup of the reactor coolant system.

Explanation of Answer

A. Incorrect - While restoring level to > +1 inch would allow the reset of Group II isolation, level need only be raised above the Group II setpoint of 1 inch, and not to > +50".
B. Incorrect - While restoring level to > +1 inch would allow the reset of Group II isolation, level need only be raised above the Group II setpoint of 1 inch, and not to > +50".
C. Correct
D. Incorrect - RPV level > +50 inches will promote natural circulation, but it is not a form of adequate decay heat removal.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: E/APE | RO Grp: 3 | SRO Grp: 2 | RO Val: 3.3 | SRO Val: 3.4 | 55.43 ☐

System: 295021 — Loss of Shutdown Cooling

KA Group Num: K3 — Knowledge of the reasons for the following responses as they apply to ____:

KA Detail Num: AK3.01 — Raising Reactor Water Level

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Loss of Shutdown Cooling Bases	ON-125	2.8.6	6	5	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Off Normal Procedures	PLOT-1550	II.B.21	7	7	3

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Question Data for Test: AUG 2001 NRC

Question: 365

The Heat Capacity Temperature Limit of the Primary Containment will be reduced if:

- [ ] A. RPV pressure lowers.
- [x] B. Torus level lowers.
- [ ] C. Torus pressure increases.
- [ ] D. Drywell temperature increases.

Explanation of Answer:

A. Incorrect - Lowering RPV pressure will cause the HCTL to be less restrictive.
B. Correct - Lowering Torus level will cause the HCTL to be more restrictive.
C. Incorrect - Torus pressure has no effect on HCTL.
D. Incorrect - Drywell temperature has no effect on HCTL.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: E/APE   RO Grp: 2   SRO Grp: 1   RO Val: 3.8   SRO Val: 4.1   55.43 ☐

System: 295030 — Low Suppression Pool Water Level

KA Group Num: K1 — Knowledge of the operational implications of the following concepts as they apply to ______:

KA Detail Num: EK1.03 — Heat Capacity

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip/Samp Curves, Tables & Limits		4	5	3	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.C	17	8	11

Question Data for Test: AUGUST 2001 SRO

Question: 366

Unit 2 is operating at 100% power when a loss of 2B RPS occurred. Investigation reveals that the 2B RPS MG Set Output breaker tripped on undervoltage. The CRS has directed that 2B RPS be transferred to its alternate source in accordance with SO-60F.6.A-2, "Transferring RPS Power Supplies".

This order must be done in a timely fashion in order to:

- [ ] A minimize the amount of time that 2B RPS is inoperative.
- [ ] B minimize the amount of time that RWCU is isolated.
- [ ] C prevent a reactor scram due to High Scram Discharge Volume level.
- [x] D prevent a reactor scram due to a Group I isolation.

Explanation of Answer

A. Incorrect - 2B RPS is not inoperative.
B. Incorrect - RWCU will not isolate.
C. Incorrect - Although outboard SDV drains isolate, operating experience indicates that the SDV will not reach +50 gallons for a considerable length of time.
D. Correct - RPS needs to be transferred so that Reactor Building ventilation can be restarted. If not done in a timely fashion, a Group I isolation will occur. This in turn will isolate the heat sink.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 2 RO Val: 3.7 SRO Val: 3.9 55.43 ☐

System: 295020 Inadvertent Containment Isolation

KA Group Num: K1 Knowledge of the operational implications of the following concepts as they apply to ____:

KA Detail Num: AK1.01 Loss of Normal Heat Sink

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reactor Protection System	PWT-5050F	II.D	34	1	3g

67

Question Data for Test: AUGUST 2001 SRO

Question: 367

T-102 "Primary Containment Control" directs that the Primary Containment be vented, regardless of offsite release rates when drywell or torus hydrogen levels are at least _____(1)_____ AND drywell oxygen levels are at least _____(2)_____.

- [x] A (1) 6%, (2) 5%
- [ ] B (1) 5%, (2) 5%
- [ ] C (1) 4%, (2) 5%
- [ ] D (1) .5%, (2) .5%

Explanation of Answer:
A. Correct - DW gas concentrations have exceeded the deflagration limits.
B. Incorrect - The concentrations, while high, are not high enough. Exceeding General Emergency Rad Release Rates is not allowed.
C. Incorrect - The concentrations, while high, are not high enough. Exceeding General Emergency Rad Release Rates is not allowed.
D. Incorrect - Minimal detectable. Venting in not ever required.

Exam Level: Both
Cognitive Level: Memory
Facility: PBAPS
Materials:

KA Information

Tier: E/APE | RO Grp: 1 | SRO Grp: 1 | RO Val: 3.2 | SRO Val: 3.7 | 55.43 ☐

System: 500000 — High Containment Hydrogen Concentration

KA Group Num: EK2 — Knowledge of the interrelations between ____ and the following:

KA Detail Num: EK2.07 — Drywell Vent System

Question Source Information

Ques Source: New
Question Source:
Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Primary Containment Control	T-102	DW/a-3	2	13	
Trip Procedures	PLOT-1560	II.C.3	17	8	9

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Question Data for Test: AUG 2001 NRC

Question: 371

Unit 2 experienced the following transient:
* Fuel damage occurred causing an automatic reactor scram on high Main Steam Line Radiation.
* The anticipated Group 1 isolation failed and could not be manually completed.
* A main steam line break was also identified in the turbine building during the transient.

The following conditions currently exist on Unit 2:
* The URO scram actions are complete
* The PRO is coordinating the Equipment Operator's performance of AO 1A.2-2 "Closing A Stuck Open Outboard Main Steam Isolation Valve".
* The PRO scram actions have not been performed.
* Reactor Pressure is 1055 psig and rising.

Which of the following methods will minimize the challenge to primary containment while controlling this high reactor pressure condition.

Manual operation of:

- [ ] A Turbine Bypass Valves
- [ ] B Safety Relief Valves
- [ ] C Reactor Feedwater Pump Turbines
- [x] D High Pressure Coolant Injection

Explanation of Answer

A. Incorrect - Turbine Bypass valves would normally be the preferred method of control to minimize heat input into the torus (even with the main steam line break), but not when major fuel damage is present. The candidate must diagnose the high main steam line radiation condition that resulted in the reactor scram as indicative of MAJOR fuel failure.
B. Incorrect - The Safety Relief Valves would cause a larger heat input for the same pressure drop as the operation of HPCI. They are also not available since instrument nitrogen has not been realigned to them during the PRO scram actions.
C. Incorrect - Operation of the RFPTs would minimize heat input to the torus, but with major fuel damage present, operation of turbine building equipment to control reactor pressure is not permitted in accordance with the T-101 bases.
D. Correct - HPCI is the preferred method of reducing pressure while minimizing the challenge to the primary containment under these conditions.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	

KA Information

Tier: E/APE | RO Grp: 1 | SRO Grp: 1 | RO Val: 3.8 | SRO Val: 3.8 | 55.43 ☐

System: 295025 | High Reactor Pressure

KA Group Num: K3 | Knowledge of the reasons for the following responses as they apply to _____:

KA Detail Num: EK3.03 | HPCI Operation

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.C	18	8	12

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RPV Control	T-101 Bases	RC/P-12	24	22	

Question Data for Test: AUGUST 2001 SRO

Question: 372

In accordance with T-102, "Primary Containment Control", which of the following is the major concern with elevated drywell temperature?

- [x] A — Environmental considerations for electrical equipment inside the drywell are challenged.
- [ ] B — The ability of the primary containment to absorb the decay heat of the reactor is challenged.
- [ ] C — Water flashing to steam in the DWCW piping, leading to a loss of drywell ventillation.
- [ ] D — The RPV Saturation Temperature increases, causing an increase in the outgassing of RPV level instrument legs.

Explanation of Answer

A. Correct
B. Incorrect - This is a function of Torus temperature, Torus level, and RPV pressure.
C. Incorrect - This is a concern regarding T-223-2.
D. Incorrect - While increasing drywell temperature does have an effect on instrument legs in the drywell, it will not increase the RPV Saturation Temperature.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 2 RO Val: 2.9 SRO Val: 3.1 55.43 ☐

System: 295028 High Drywell Temperature

KA Group Num: K1 Knowledge of the operational implications of the following concepts as they apply to ____:

KA Detail Num: EK1.02 Equipment Environmental Qualification

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Primary Containment Control	T-102 Bases	DW/T-3	19	14	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.C.3	17	8	9

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Question Data for Test: AUGUST 2001 SRO

Question: 375

The following conditions exist on Unit 2 following a Loss of Coolant Accident:

* The Drywell is being sprayed per T-204 with the 2D RHR pump.
* HPCI is injecting into the RPV at 5000 gpm.
* RPV level is -10 inches and steady.
* RPV pressure is 800 psig and lowering.
* Torus temperature is 198 degrees F and rising.
* Torus level is 12 feet.
* Torus pressure is 5.5 psig.
* Drywell pressure is 7.5 psig

With regard to NPSH:

- [ ] A. The HPCI System MUST be secured.
- [x] B. The 2D RHR Pump MUST be secured.
- [ ] C. HPCI flow MUST be reduced to 4900 gpm.
- [ ] D. 2D RHR Pump flow MUST be reduced to 8000 gpm.

Explanation of Answer:
A. Incorrect - HPCI flow needs to be reduced, not secured.
B. Correct - Flow can never be reduced to the safe side of the curve.
C. Incorrect - HPCI flow needs to be reduced to less than 4750 gpm.
D. Incorrect - RHR flow can never be reduced below the safe side of the curve.

Exam Level	Cognitive Level	Facility	Materials
Both	Application	PBAPS	T-102 Sheet 3

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 1 RO Val: 3.0 SRO Val: 3.4 55.43 ☐

System: 295026 Suppression Pool High Water Temperature

KA Group Num: K1 Knowledge of the operational implications of the following concepts as they apply to _____:

KA Detail Num: EK1.01 Pump NPSH

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Primary Containment Control	T-102	T-102 Sheet 3	3	12	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.C.3	17	8	7

Question Data for Test: AUGUST 2001 SRO

Question: 379

Unit 2 was operating at 100% power when the 2A RHR Pump was started and placed in Torus Cooling in preparation to support post maintenance testing activities on the RCIC System. A pipe leak upstream of MO-13A, "2A RHR Pump Suction" has resulted in an unisolable leak in the Torus. Torus level is 13 feet and lowering.

In accordance with T-102, an Emergency Blowdown must be performed _____(1)_____ in order to _____(2)_____.

- ☐ A (1) immediately, (2) ensure the Heat Capacity Temperature Limit (HCTL) curve is not exceeded
- ☐ B (1) at 12.5 feet, (2) minimize the driving force of the primary system breach
- ☑ C (1) at 10.5 feet, (2) depressurize the reactor before the downcomer vents are uncovered
- ☐ D (1) at 10.5 feet, (2) depressurize the reactor before the SRV tailpipes are uncovered

Explanation of Answer

A. Incorrect - Since there is no energy being added to the Torus, the HCTL curve is not threatened until a Torus level of 10.5 feet.
B. Incorrect - A Torus break is not a primary system breach.
C. Correct - T-102 Bases identifies a level of 10.5 feet as the level of the downcomers, and directs an Emergency Blowdown.
D. Incorrect - SRV tailpipes are at a level of 7 feet.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: E/APE | RO Grp: 2 | SRO Grp: 1 | RO Val: 3.8 | SRO Val: 4.1 | 55.43 ☐

System: 295030 — Low Suppression Pool Water Level

KA Group Num: K3 — Knowledge of the reasons for the following responses as they apply to _____:

KA Detail Num: EK3.01 — Emergency Depressurization

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
T-102 Primary Cont Control Bases	T-102	T/L-9	7	14	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.B.3	17	8	9

Question Data for Test: AUGUST 2001 SRO

Question: 382

Unit 2 is at 95% power when annunciator 210 H-2, "REACTOR VESSEL LEVEL HI/LO" alarms. The following conditions exist:

* RPV level is +30 inches and rising.
* "A" RFP speed is 4400 rpm and lowering.
* "B" RFP speed is 4450 rpm and steady.
* "C" RFP speed is 4650 rpm and rising.
* Total steam flow is less than total feed flow.

Based on the above indications, the _____(1)_____ RFP is operating correctly and the _____(2)_____ RFP should be taken to manual control.

- [x] A (1) "A", (2) "C"
- [ ] B (1) "B", (2) "C"
- [ ] C (1) "B", (2) "A"
- [ ] D (1) "C", (2) "A"

Explanation of Answer

A. Correct - If feed flow is > steam flow, RPV level will rise. The RFP master level controller will attempt to lower ALL RFP speeds. Only the "A" RFP speed is operating correctly. The "B" RFP control is not responding (speed is constant). The "C" RFP controller has failed because speed is rising.
B. Incorrect
C. Incorrect
D. Incorrect

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 2 RO Val: 3.5 SRO Val: 3.5 55.43 ☐

System:	295008	High Reactor Water Level
KA Group Num:	A1	Ability to operate and/or monitor the following as they apply to _____:
KA Detail Num:	AA1.08	Feedwater System

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Operational Transient Procedures	PLOT-1540	II.B	6	6	4

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reactor High Level	OT-110	3.2	3	6	

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Question Data for Test: AUGUST 2001 SRO

Question: 388

Unit 2 is at 90% power, with the following conditions:

* ST-I-023-100-2, "HPCI Logic System Functional Test" is in progress.
* Torus temperature is 91 degrees F and rising.
* Torus cooling is maximized.

Torus temperature shall be recorded every _____(1)_____ and evaluation of aborting the HPCI ST shall be made as Torus temperature approaches _____(2)_____.

- [x] A (1) 5 minutes, (2) 95 degrees F
- [ ] B (1) 5 minutes, (2) 110 degrees F
- [ ] C (1) 10 minutes, (2) 95 degrees F
- [ ] D (1) 10 minutes, (2) 110 degrees F

Explanation of Answer

A. Correct - ST-I-023-100-2 directs torus temperature be recorded every 5 minutes. Step 4.3.4 of the ST states that Shift Management shall determine if the test shall continue as temp approaches 95 degrees F.
B. Incorrect - Tech Spec value of 110 degrees F is the upper limit of when the reactor must be scrammed.
C. Incorrect - ST-I-023-100-2 directed temp be recorded every 5 minutes.
D. Incorrect - Refer to "B" and "C above.

Exam Level	Cognitive Level	Facility	Materials
Both	Memory	PBAPS	None

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 1 RO Val: 3.9 SRO Val: 3.9 55.43 ☐

System: 295026 Suppression Pool High Water Temperature

KA Group Num: A1 Ability to operate and/or monitor the following as they apply to ____:

KA Detail Num: EA1.03 Temperature Monitoring

Question Source Information

Ques Source: New Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
HPCI Logic System Functional Tes	ST-I-023-100-2	4.3.4	8	10	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Primary Containment	PLOT-5007	II.F.10	34	0	5

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Question Data for Test: AUGUST 2001 SRO

Question: 393

The following conditions exist on Unit 3:

* Reactor scrammed due to low RPV level.
* Reactor power is 50%.
* RPV level is being controlled between -60 to -100 inches.
* 135 control rods did not insert.
* All scram valves are open.

In accordance with T-101, "RPV Control", select the statement below which identifies the proper operator actions needed to insert the remaining control rods.

- [x] A Reset ARI, reset the scram, drain the SDV, and manually scram the reactor.
- [ ] B Reset the scram, drain the SDV, and manually scram the reactor.
- [ ] C Deenergize scram solenoids by placing individual scram test switches to the "scram" position.
- [ ] D Isolate instrument air to the scram air header and then vent the scram air header.

Explanation of Answer

A. Correct - Unit 3 is experiencing a hydraulic ATWS.
B. Incorrect - Since RPV level is less than -48", ARI will have to be reset.
C. Incorrect - Unit 3 is experiencing a hydraulic ATWS. Deenergizing scram solenoids will have no effect since the scram valves are already open.
D. Incorrect - If the scram valves are open, then the scram air header is already depressurized.

Exam Level	Cognitive Level	Facility	Materials
Both	Comprehension	PBAPS	None

KA Information

Tier: E/APE | RO Grp: 1 | SRO Grp: 1 | RO Val: 3.8 | SRO Val: 3.9 | 55.43 ☐

System: 295015 — Incomplete Scram

KA Group Num: A1 — Ability to operate and/or monitor the following as they apply to ______:

KA Detail Num: AA1.01 — CRD Hydraulics

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Control Rod Insertion By Manual S	T-216-2	1.0	1	5	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.B.2	16	8	12

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NRC Report

Question Data for Test: AUGUST 2001 SRO

Question: 137

Unit 3 is experiencing a hydraulic Anticipated Transient Without Scram (ATWS). The following plant conditions exist:

* Control rods are being manually inserted using T-220 "Driving Control Rods During Failure to Scram".
* "B" Standby Liquid Control (SBLC) pump is injecting boron into the reactor vessel.
* Reactor Engineering has been directed to complete a calculation to determine the reactor's shutdown condition.

Which one of the following conditions describes when the ATWS will be considered terminated in accordance with T-101 "RPV Control".

- [ ] A — 1 Control Rod is at position 12, 10 Control Rods are at position 02, all other rods are at position 00, 28% of the SBLC tank has been injected.
- [x] B — 27 Control Rods are at position 04, all other rods are at position 00, 2% of the SBLC tank has been injected.
- [ ] C — 3 Control Rods are at position 06, all other Control Rods are at position 00, 45% of the SBLC tank has been injected.
- [ ] D — 22 Control Rods positions are unknown, the SBLC tank has been fully injected into the vessel.

Explanation of Answer:

This question satisfies 10CFR55.43(b)(5) and (6).

TRIP Note #24 clearly defines what terminates an ATWS condition as: All rods inserted to or beyond the Maximum Subcritical Banked Rod Withdrawal Position (MSBRWP).

Note that for Unit 3 the MSBRWP is "04". (Unit 2 is "02".) This evaluates a unit difference.

Exam Level	Cognitive Level	Facility	Materials
SRO	Memory	PBAPS	N/A

KA Information

Tier: PWGs RO Grp: 2 SRO Grp: 2 RO Val: 3.1 SRO Val: 3.3 55.43 ☑

System:	Generic	
KA Group Num:	2.2	Equipment Control
KA Detail Num:	2.2.3	(Multi-Unit) knowledge of the design, procedural, and operational differences between units.

Question Source Information

Ques Source:	2001 NRC Exam	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RPV Control	T-101	Note #24	1	17	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
TRIP procedures	PLOT-1560			8	11

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
TRIP Curves, Tables and Limits		Appendix 1	1	4	

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Question Data for Test: AUGUST 2001 SRO

Question: 298

Unit 2 is in MODE 1 at 100% power.

* An applicable Tech Spec Surveillance with a 24 hour frequency was last performed satisfactorily at 1230 on 8/13/01.
* The LCO required actions direct that the equipment be restored to OPERABLE status in 4 hours, or be in MODE 3 in 12 hours and MODE 4 in 36 hours.

If a plant priority on Unit 3 prevents the surveillance from being performed, when is Unit 2 required to be in MODE 4?

- [x] A. By 1030 on 8/16/01.
- [ ] B. By 0630 on 8/16/01.
- [ ] C. By 0430 on 8/16/01.
- [ ] D. By 0030 on 8/16/01.

Explanation of Answer:

A. Correct, 8/13/01 at 1230 + 24 hr frequency + 6 hr grace + 4 hr restoration + 36 hrs to MODE 4.
B. Incorrect, 8/13/01 at 1230 + 24 hr frequency + 6 hr grace + 36 hrs to MODE 4.
C. Incorrect, 8/13/01 at 1230 + 24 hr frequency + 4 hr restoration + 36 hrs to MODE 4.
D. Incorrect, 8/13/01 at 1230 + 24 hr frequency + 36 hrs to MODE 4.

Exam Level	Cognitive Level	Facility	Materials
SRO	Application	PBAPS	None

KA Information

Tier: PWGs | RO Grp: 1 | SRO Grp: 1 | RO Val: 2.9 | SRO Val: 4.0 | 55.43 [ ]

System:	Generic	Generic
KA Group Num:	2.1	Conduct of Operations
KA Detail Num:	2.1.12	Ability to apply Technical Specifications for a System

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Tech Spec	TS	3.0	0-1, 4	210	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Intro to Improved TS	PLOT-1800	III	16	7	2

7-75

Question Data for Test: AUGUST 2001 SRO

Question: 320

Given the following conditions:

* Unit 2 had been operating at 100% power.
* An Electro-Hydraulic Control (EHC) System logic failure caused the Main Turbine Stop Valves to close and the Main Turbine Bypass Valves to remain closed.
* Reactor pressure peaked at 1340 psig at which time the reactor scrammed on high flux.

In accordance with Technical Specifications, a Safety Limit Violation _____(1)_____, and the NRC must be notified within _____(2)_____.

- [x] A (1) has occurred, (2) One hour
- [ ] B (1) has occurred, (2) Four hours
- [ ] C (1) HAS NOT occurred, (2) One hour
- [ ] D (1) HAS NOT occurred, (2) Four hours

Explanation of Answer:

This question satisfies 10CFR 55.43(b)(1).
A. Correct - Safety Limit 2.1.2, Reactor Steam Dome pressure has been exceeded (1325 psig). This requires notification to the NRC WITHIN one hour.
B. Incorrect - Wrong notification time.
C. Incorrect - Safety limit has been violated.
D. Incorrect - Safety limit has been violated.

Exam Level	Cognitive Level	Facility	Materials
SRO	Comprehension	PBAPS	

KA Information

Tier: PWGs RO Grp: 1 SRO Grp: 2 RO Val: 3.0 SRO Val: 3.8 55.43 ☑

System: Generic

KA Group Num: 2.1 Conduct of Operations

KA Detail Num: 2.1.11 Knowledge of less than one hour Technical Specification action statements for systems.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Intro to ITS	PLOT-1800	II.5	27	7	9

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Question Data for Test: AUGUST 2001 SRO

Question: 321

Unit 2 is in MODE 1 at 100% power. During a panel walkdown, the URO notes that the "red" drive motor breaker light for the 'A' Recirc Pump MG Set is NOT lit. The 'A' Recirc MG Set is running normally. Investigation revealed a failed trip coil in the breaker.

What actions are required?

Restore ATWS - RPT Reactor Pressure - High trip capability within:

- [x] A. 1 hour.
- [ ] B. 6 hours.
- [ ] C. 72 hours.
- [ ] D. 14 days.

Explanation of Answer:

This question satisfies 10CFR 55.43(b)(1).

A. Correct - With a failed trip coil, the breaker will not automatically trip. This results in both functions of trip capability being lost.
B. Incorrect - 6 hours is for action when required action and associated completion time not met.
C. Incorrect - 72 hours is one function with trip capability not met
D. Incorrect - 14 days is for one or more channels inop.

Exam Level	Cognitive Level	Facility	Materials
SRO	Application	PBAPS	TS 3.3.4.1

KA Information

Tier: PWGs RO Grp: 1 SRO Grp: 2 RO Val: 3.4 SRO Val: 4.0 55.43 ☑

System: Generic

KA Group Num: 2.1 — Conduct of Operations

KA Detail Num: 2.1.33 — Ability to recognize indications for system operating parameters which are entry level conditions for Technical Specifications.

Question Source Information

Ques Source: Bank

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
ATWS Instrumentation	TS 3.3.4.1	3.3.4.1	3.3-30	210	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Intro to ITS	PLOT-1800	II.H	27	7	2

795

Question Data for Test: AUGUST 2001 SRO

Question: 322

Unit 2 is operating at 100% power with testing scheduled this shift on RPV instrumentation. Two hours into the shift, I&C informs the CRS that PT-2-2-3-55A "RPV Pressure" is unresponsive to pressure increases above 525 psig. Using the attached P&ID and Tech Specs, determine the correct TSA.

- ☐ A — Enter MODE 3 within 12 hours.
- ☐ B — Functionally test the remaining Reactor high pressure trip channels immediately.
- ☐ C — Trip the "A" RPS Trip System within 12 hours AND trip PCIS Channel "A" within 12 hours.
- ☑ D — Trip the "A" RPS Trip System within 12 hours AND trip PCIS Channel "A" within 24 hours.

Explanation of Answer

This question satisfies 10CFR 55.43(b)(1)and (2).
A. Incorrect - TS 3.3.11 AND 3.3.6.1 allow you to either place the channel OR associated Trip System to trip within 12 hours.
B. Incorrect - Not required.
C. Incorrect - PCIS can be placed to trip within 24 hours.
D. Correct

Exam Level	Cognitive Level	Facility	Materials
SRO	Application	PBAPS	Provide a copy of TS 3.3 for the exam and M-352 Sheet 1.

KA Information

Tier: PWGs | RO Grp: 1 | SRO Grp: 1 | RO Val: 2.6 | SRO Val: 3.8 | 55.43 ☑

System: Generic

KA Group Num: 2.2 — Equipment Control

KA Detail Num: 2.2.24 — Ability to analyze the affect of maintenance activities on LCO status.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Tech Specs	3.3.6.1	A1	3.3-48	210	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Tech Specs	3.3.1.1	A1	3.3-1	210	Tec

805

Question Data for Test: AUGUST 2001 SRO

Question: 323

Unit 2 is operating at 100% power. The Floor Drain Sample Tank (FDST) needs to be discharged.

Identify the position that is responsible for review and approval of the Chemistry Technician's calculations.

- [ ] A. Shift Operations Superintendent
- [x] B. Control Room Supervisor
- [ ] C. Plant Reactor Operator
- [ ] D. Chemistry Supervisor

Explanation of Answer

This question satisfies 10CFR 55.43(b)(4).
A. Incorrect - S.O.S. is not responsible to review ST's.
B. Correct. ST-C-095-805-2 identifies the Shift Supervisor as the person responsible to ensure calculations are correct, thereby preventing a rad release in excess of ODCM requirements.
C. Incorrect - The PRO is responsible for setting the Hi and Hi-Hi Trip Setpoints.
D. Incorrect - The Chemistry Supervisor does not sign off on this ST procedure.

Exam Level	Cognitive Level	Facility	Materials
SRO	Memory	PBAPS	

KA Information

Tier: PWGs RO Grp: 1 SRO Grp: 1 RO Val: 2.1 SRO Val: 3.1 55.43 [x]

System: Generic

KA Group Num: 2.3 — Radiation Control

KA Detail Num: 2.3.6 — Knowledge of requirements for reviewing and approving release permits.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Liquid Radwaste Discharge	ST-C-095-805-2	4.4	3	8	

(8 LS)

Question Data for Test: AUGUST 2001 SRO

Question: 324

Unit 2 is reducing reactor power in accordance with GP-5 in preparation for a forced outage. Currently, reactor power is 45%. Work must be performed in the Drywell during the forced outage. To support that work, the Primary Containment needs to be de-inerted in accordance with SO 7B.4.A-2 "Containment Atmosphere De-inerting and Purging Via SBGT System". The accumulated total time that the 6" and 18" purge and vent valves have been opened for the calendar year is 16 hours.

Per plant procedure and Technical Specifications the containment:

- [x] A — can be purged and vented with the 6" and 18" valves.
- [ ] B — can be purged but reactor power must be reduced to less than 15% rated thermal power within 4 hours.
- [ ] C — CANNOT be purged until reactor power is reduced to less than 15% of rated thermal power.
- [ ] D — CANNOT be purged and vented with the 6" and 18" valves because the accumulated total time since the beginning of the calendar year has been exceeded.

Explanation of Answer:
This question satisfies 10CFR 55.43(b)(4).
A. Correct - With reactor pressure >100 psig AND the reactor critical AND in MODE 1 or 2 a limit of 90 hours is allowed in accordance with RT-O-007-560-2.
B. Incorrect - Would have 24 hours to lower power to <15 RTP.
C. Incorrect - The containment can be vented, provided reactor power is <15% RPT within 24 hours.
D. Incorrect - Incorrect. The containment can be vented.

Exam Level	Cognitive Level	Facility	Materials
SRO	Comprehension	PBAPS	None

KA Information

Tier: PWGs RO Grp: 1 SRO Grp: 1 RO Val: 2.5 SRO Val: 3.4 55.43 [x]

System: Generic

KA Group Num: 2.3 — Radiation Control

KA Detail Num: 2.3.9 — Knowledge of the process for performing a containment purge.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Primary Containment Purge/Vent L	RT-O-002-560-2	1.0	2	1	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
CAC	PLOT-5007B	I.E	29	1	8

825

Question Data for Test: AUGUST 2001 SRO

Question: 353

Unit 2 was operating at 100% power when the following conditions occur:

* At 0915, annunciator 008 B7A "Inner Screen Or Pump Structure Heat/Smoke Det. A269, Elev. 116'-0" alarms.
* At 0916, the Fire Brigade is dispatched.
* At 0919, the Incident Commander reports to the Control Room that there is a fire within the Inner Screen Structure.
* At 0937, the Incident Commander reports that the fire is out.

In accordance with ON-114, this condition _____(1)_____ need to be reported to outside agencies because the fire was _____(2)_____.

- [ ] A
  (1) does NOT
  (2) located in a non-vital structure.
- [ ] B
  (1) does NOT
  (2) extinguished within 20 minutes.
- [ ] C
  (1) does
  (2) located in a vital structure AND not extinguished within 20 minutes.
- [x] D
  (1) does
  (2) located in a vital structure AND not extinguished within 15 minutes.

Explanation of Answer

This satisfies 10CFR 55.43(b)(5).
A. Incorrect - The Inner Screen Structure is a vital structure. If the fire is not extinguished within 15 minutes of being verified, an Unusual Event is classified. This in turn would require the notification of outside agencies.
B. Incorrect. The fire is in a vital structure.
C. Incorrect - The time requirement is 15 minutes from the time the fire is verified.
D. Correct.

Exam Level	Cognitive Level	Facility	Materials
SRO	Comprehension	PBAPS	

KA Information

Tier: PWGs | RO Grp: 1 | SRO Grp: 1 | RO Val: 2.2 | SRO Val: 3.6 | 55.43 ☑

System:	Generic	
KA Group Num:	2.4	Emergency Plan
KA Detail Num:	2.4.30	Knowledge of which events related to system operations/status should be reported to outside agencies.

Question Source Information

Ques Source:	New	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Fire in The Power Block	ON-114	4	4	8	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reportability	PLOT-1575	IV.A	8	5	2a

835

Question Data for Test: AUGUST 2001 SRO

Question: 347

In accordance with LS-AA-104 "Exelon 50.59 Review Process", which of the following activities would require NRC approval prior to implementation?

- [ ] A — The 3B Reactor Feed Pump Turbine is being replaced with an identical turbine.
- [ ] B — A temporary mechanical modification to support maintenance on the Unit 3A Circ Water Pump.
- [x] C — A new test on the Reactor Protection System that puts the facility in a condition not described in the UFSAR.
- [ ] D — The second chapter of the UFSAR needs revision in order to improve clarity and remove unnecessary detail.

Explanation of Answer:

This question satisfies the criteria of 10 CFR 55.43 (3), Facility Licensee procedures required to obtain authority for design and operating changes in the facility.

A. Incorrect - NRC would not have to approve this item.
B. Incorrect - NRC would not have to approve this item.
C. Correct
D. Incorrect - NRC does not have to approve this item.

Exam Level	Cognitive Level	Facility	Materials
SRO	Memory	PBAPS	

KA Information

Tier: SYS — RO Grp: 1 — SRO Grp: 1 — RO Val: 2.0 — SRO Val: 3.2 — 55.43 ☑

System: 212000 — Reactor Protection System

KA Group Num: G

KA Detail Num: 2.2.7 — Knowledge of the process for conducting tests or experiments not described in the Safety Analysis Report.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
50.59 Resource Manual	LS-AA-104	3.14	3-14		

845

Question Data for Test: AUGUST 2001 SRO

Question: 349

Control rods are being withdrawn on Unit 2 to support a reactor startup. To support this, an additional active licensed operator must be assigned to the Unit.

In accordance with the Nuclear Operations Manual, when is this additional operator no longer required?

- [ ] A — After the reactor has achieved criticality.
- [ ] B — After the reactor is at the point of adding heat.
- [ ] C — After the Mode Switch has been placed in "RUN".
- [x] D — After the RWM is above the LPSP AND the generator is synchronized to the grid.

Explanation of Answer

This question satisfies 10 CFR 55.43(b)(6).

A. Incorrect - NOM-C-1.4 "Reactor Operators" clearly identifies this requirement be met until the RWM is >LPSP AND the generator is synchronized to the grid.
B. Incorrect - NOM-C-1.4 "Reactor Operators" clearly identifies this requirement be met until the RWM is >LPSP AND the generator is synchronized to the grid.
C. Incorrect - NOM-C-1.4 "Reactor Operators" clearly identifies this requirement be met until the RWM is >LPSP AND the generator is synchronized to the grid.
D. Correct

Exam Level	Cognitive Level	Facility	Materials
SRO	Memory	PBAPS	

KA Information

Tier: SYS — RO Grp: 1 — SRO Grp: 2 — RO Val: 2.3 — SRO Val: 3.4 — 55.43 [x]

System:	201002	Reactor Manual Control System
KA Group Num:	G	
KA Detail Num:	2.1.4	Knowledge of shift staffing requirements.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reactor Operators	NOM-C-1.4	6.0	13	1	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
NOM	PLOT-1527			0	1

85s

Question Data for Test: AUGUST 2001 SRO

Question: 352

Unit 2 was operating at 100% power when the PRO inadvertently bumps the control switch for the 2A Condensate Pump Suction Valve closed.

Which of the following alarms is expected AND what procedure shall be entered?

- [ ] A. 210 H-2 "Reactor Hi/Lo Water Level" is expected. OT-100 "Reactor Low Level" shall be entered.
- [ ] B. 203 D-3 "Condensate Header Lo Pressure" is expected. OT-100 "Reactor Low Level" shall be entered.
- [ ] C. 213 A-3 "A Recirc Fluid Drive Scoop Tube Lock" is expected. AO-2D.2-2 "Recirculation MG Set Scoop Tube Manual Operation" shall be entered.
- [x] D. 214 G-3 "B Recirc Flow Limit" is expected. OT-112 "Unexpected/Unexplained Change in Core Flow" shall be entered.

Explanation of Answer

This question satisfies 10CFR55.43(b)(5).
A. Incorrect - 2A Suction Valve closure will result in a trip of the 2A Condensate Pump. This will cause a 45% runback on BOTH recirc pumps. No low level alarm is expected.
B. Incorrect - Condensate Header Pressure does not drop to the setpoint for this alarm.
C. Incorrect - The scoop tube will not lock up in this condition. Instead, the recirc pumps runback to 45% because the 2A Condensate Pump will trip.
D. Correct

Exam Level	Cognitive Level	Facility	Materials
SRO	Comprehension	PBAPS	

KA Information

Tier: SYS RO Grp: 2 SRO Grp: 3 RO Val: 3.5 SRO Val: 3.6 55.43 ☑

System: 256000 Reactor Condensate System

KA Group Num: G 2.4.46

KA Detail Num: 2.4.46 Ability to verify that the alarms are consistent with the plant conditions.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Unexepected/unexplained Change	OT-112	1.0	1	33	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Condensate	PLOT-5005	II.E	25	1	46

865

Question Data for Test: AUGUST 2001 SRO

Question: 354

Unit 2 has experienced a LOCA. The following conditions exist:

* T-117 was entered due to an electrical ATWS.
* T-102 was entered on all parameters.
* RPV level is -240 inches.
* T-112 was executed by opening all 5 ADS SRVs.
* Drywell pressure is 20 psig and rising.
* Containment H2 is 5% and Containment O2 is 5%.
* Drywell rads are 650,000 R/hr and rising.

In accordance with ERP-101 "Classification of Emergencies", a _____(1)_____ exists due to a _____(2)_____.

- [ ] A (1) Site Area Emergency, (2) potential loss of fuel clad and a loss of containment
- [ ] B (1) Site Area Emergency, (2) loss of reactor coolant system and a potential loss of containment
- [ ] C (1) General Emergency, (2) loss of three fission product barriers
- [x] D (1) General Emergency, (2) loss of two fission product barriers and a potential loss of a third barrier

Explanation of Answer

This question satisfies 10 CFR 55.43(b) by meeting criteria (4) and criteria (5).

A. Incorrect - There is a loss of fuel clad and a loss of reactor coolant system.
B. Incorrect - There is also a loss of fuel clad.
C. Incorrect - There is a loss of 2 fuel barriers and a potential loss of a third.
D. Correct

Exam Level	Cognitive Level	Facility	Materials
SRO	Application	PBAPS	ERP-101

KA Information

Tier: SYS | RO Grp: 1 | SRO Grp: 1 | RO Val: 2.6 | SRO Val: 3.0 | 55.43 ☑

System: 239002 — Relief/Safety Valves

KA Group Num: Generic

KA Detail Num: 2.3.1 — Knowledge of 10 CFR 20 and related facility radiation control requirements.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Classification of Emergencies	ERP-101	3.2	11	22	

Question Data for Test: AUGUST 2001 SRO

Question: 384

Unit 2 was operating at 100% power when a feedwater break inside the Primary Containment occurs. The following conditions exist:

* The reactor is shutdown.
* RPV pressure is 930 psig.
* RPV level is -40 inches, with Feedwater, HPCI, and RCIC injecting.
* Torus pressure is 4 psig and rising.
* Drywell pressure is 6 psig and rising.
* Torus level is 21 feet.
* Drywell Bulk Average Temperature is 168 degrees and rising.

Spraying the Torus at this time will:

☐ A reduce pressure in the Torus before conditions are met for chugging in the downcomers.

☐ B prevent exceeding the Torus Spray Initiation pressure.

☑ C have no effect because the Torus Spray Spargers are covered.

☐ D have no effect because the Drywell Vacuum Breakers are covered.

Explanation of Answer

This question satisfies 10 CFR 55.43 (b)(5).

A. Incorrect - Torus Sprays are ineffective because the spray spargers are covered.
B. Incorrect - Even if the Spray Spargers were not covered, spraying the Torus would not prevent exceeding the Torus Spray Initiation pressure.
C. Correct
D. Incorrect - At 18.5 feet, Torus Sprays would have an effect.

Exam Level	Cognitive Level	Facility	Materials
SRO	Comprehension	PBAPS	

KA Information

Tier: SYS | RO Grp: 2 | SRO Grp: 2 | RO Val: 3.7 | SRO Val: 4.4 | 55.43 ☑

System:	230000	RHR/LPCI: Torus/Suppression Pool Spray Mode
KA Group Num:	Generic	
KA Detail Num:	2.1.7	Ability to evaluate plant performance, and make operational judgements based on operating characteristics, reactor behavior, and instrument interpretation.

Question Source Information

Ques Source:	New	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.C.3	17	8	11

885

Question Data for Test: AUGUST 2001 SRO

Question: 385

A Loss of Coolant Accident has occurred on Unit 3. The following conditions exist:

* RPV level: -10 inches and lowering.
* RPV pressure: 900 psig and lowering.
* Torus level: 15 feet
* DW Bulk Avg temp: 275 degrees F and rising.
* Torus pressure: 13 psig
* Drywell pressure: 15 psig
* T-203 "Initiation of Torus Sprays Using RHR" is completed.

Spraying the drywell at this time will result in:

- [x] A an evaporative cooling pressure drop greater than the capacity of the Torus to Drywell vacuum breakers.
- [ ] B an evaporative cooling pressure drop greater than the capacity of the Reactor Building to Torus vacuum breakers.
- [ ] C an conductive cooling pressure drop greater than the capacity of the Torus to Drywell vacuum breakers.
- [ ] D a conductive cooling pressure drop to below the high drywell pressure scram setpoint.

Explanation of Answer

This question satisfies 10 CFR 55.43 (b)(5)
A. Correct - DW temperature/pressure plot on the unsafe side of the DWSIL curve.
B. Incorrect - Bases it for Torus-to-Drywell vacuum breakers, not Reactor Building to Torus vacuum breakers.
C. Incorrect - There is no conductive heat transfer when spraying the DW.
D. Incorrect - There is no conductive heat transfer when spraying the DW.

Exam Level	Cognitive Level	Facility	Materials
SRO	Memory	PBAPS	Curve PC/P-1, DWSIL Curve

KA Information

Tier: SYS   RO Grp: 2   SRO Grp: 1   RO Val: 3.7   SRO Val: 4.4   55.43 ☑

System: 226001 RHR/LPCI: Containment Spray System Mode

KA Group Num: Generic

KA Detail Num: 2.1.7 Ability to evaluate plant performance and make operation judgements based on operating characteristics, reactor behavior, and instrument interpretation.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.C.3	17	8	9

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip/SAMP Curves, Tables and Lim		3	3	5	

(89 5)

Question Data for Test: AUGUST 2001 SRO

Question: 312

Unit 2 is operating at 100% power when annunciator 208 E-1 "RPS 'A' M-G Set Trouble or In Test" alarms. Subsequent investigation in the E-12 Room indicates that both the "A" and "C" RPS circuit breakers are closed, and that the reason for the alarm is a loss of D.C. control power.

The 'A' and 'C' RPS Circuit Breakers _____(1)_____ automatically trip and the 'A' RPS electric power monitoring assemblies are Tech Spec _____(2)_____.

- [x] A (1) will not, (2) inoperable
- [ ] B (1) will not, (2) operable
- [ ] C (1) will, (2) inoperable
- [ ] D (1) will, (2) operable

Explanation of Answer:
A. Correct - With a loss of D.C. control power, the RPS circuit breakers will not auto trip. This renders the power supply inoperable per Tech Spec 3.3.8.7.
B. Incorrect - Tech Specs state the power supply would be inoperable.
C. Incorrect - RPS circuit breakers will not auto trip.
D. Incorrect - RPS circuit breakers will not auto trip.

Exam Level	Cognitive Level	Facility	Materials
SRO	Comprehension	PBAPS	

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 2 RO Val: 3.2 SRO Val: 3.3 55.43 [x]

System:	295004	Partial or Complete Loss of D.C. Power
KA Group Num:	AA2	Ability to determine and/or interpret the following as they apply to:
KA Detail Num:	AA2.04	System Lineups

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RPS Electric Power Montitoring	TS 3.3.8.2	B	3.3-66	210	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Reactor Protection System	PLOT-5060F	II.C.1	19	1	6d

905

Question Data for Test: AUGUST 2001 SRO

Question: 313

The following conditions exist on Unit 2:

* RPV pressure: 900 psig
* TI-2501 PT 126: 510 degrees F
* TI-2501 PT 127: 510 degrees F
* Narrow Range Channel 'A' Indication: +15 inches
* Narrow Range Channel 'B' Indication: +13 inches
* Narrow Range Channel 'C' Indication: + 9 inches
* Wide Range Channel 'A' Indication: -125 inches
* Wide Range Channel 'B' Indication: -115 inches
* Shutdown Range Indication: +60 inches

Determine which RPV level indicator(s) are available to determine RPV level and trend per T-102 "Primary Containment Control":

- [ ] A. ALL Narrow Range Channels AND Shutdown Range.
- [x] B. Narrow Range Channels 'A' & 'B' AND Wide Range Channel 'B'.
- [ ] C. Narrow Range Channels 'A' & 'C' AND Wide Range Channel 'A'.
- [ ] D. ALL Narrow Range Channels AND ALL Wide Range Channels.

Explanation of Answer:

A. Incorrect- Shutdown range plots on the unsafe side, NR channel 'C' is unsafe.
B. Correct - NR channels A & B indications are > minimum indicated level AND Wide Range 'B' is > minimum indicated level.
C. Incorrect - NR channel C is < minimum indicated level. Wide Range Channel 'A' is < minimum indicated level.
D. Incorrect - NR channel 'C' is unavailable for indication. Wide Range 'B'; is available for indication.

Exam Level	Cognitive Level	Facility	Materials
SRO	Application	PBAPS	Table DW/T-1

KA Information

Tier: E/APE RO Grp: 2 SRO Grp: 2 RO Val: 3.7 SRO Val: 3.9 55.43 ☑

System: 295028 High Drywell Temperature

KA Group Num: EA2 Knowledge of the interrelations between high drywell temperature and the following:

KA Detail Num: EA2.03 Reactor Water Level

Question Source Information

Ques Source:	New	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Primary Containment Control	T-102	DW/T-1		13	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.B.3	17	8	9

9/15

Question Data for Test: AUGUST 2001 SRO

Question: 314

Unit 3 is at 100% power when the 3A CRD Pump trips due to overcurrent. The 3B CRD Pump is blocked for maintenance.

* At 1133, multiple accumulator trouble lights illuminate on the Full Core Display.
* At 1137, Charging Header Pressure drops to 939 psig.

In accordance with ON-107 "Loss of CRD Regulating Function", you are required to perform a _____(1)_____ at _____(2)_____.

- [ ] A (1) GP-9 Fast Power Reduction, (2) 1153
- [ ] B (1) GP-9 Fast Power Reduction, (2) 1157
- [ ] C (1) T-100 Manual Scram, (2) 1153
- [x] D (1) T-100 Manual Scram, (2) 1157

Explanation of Answer

A. Incorrect - ON-107 requires a scram.
B. Incorrect - ON-107 requires a scram.
C. Incorrect - ON-107 gives you 20 minutes to try to restore charging header pressure to greater than or equal to 940 psig.
D. Correct

Exam Level	Cognitive Level	Facility	Materials
SRO	Comprehension	PBAPS	

KA Information

Tier	RO Grp:	SRO Grp:	RO Val:	SRO Val:	55.43
E/APE	2	2	3.5	3.6	☑

System:	295022	Loss of CRD Pumps
KA Group Num:	AA2	Ability to determine and/or interpret the following as they apply to:
KA Detail Num:	AA2.01	Accumulator Pressure

Question Source Information

Ques Source:	New	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Loss of CRD Regulating Function	ON-107	2.0	1	7	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Off Normal Procedures	PLOT-1550	II.B.5	6	7	3

425

Question Data for Test: AUGUST 2001 SRO

Question: 315

Unit 2 is operating at 100% power when AO-2-86A, "Outboard MSIV" AND AO-2-80C, "Inboard MSIV" close.

This will cause a reactor scram signal due to ____(1)_____, and procedure _____(2)_____ shall be entered.

- ☐ A (1) MSIV Closure, (2) T-101 "RPV Control".
- ☐ B (1) Generator Load Reject, (2) T-100 "Scram".
- ☑ C (1) Reactor High Pressure, (2) T-101 "RPV Control".
- ☐ D (1) WRNM Hi Hi, (2) T-100 "Scram".

Explanation of Answer

A. Incorrect - This combination of MSIV's will cause a half scram, Logic is not satisfied for MSIV auto scram.
B. Incorrect - Occurs when Turbine Control Valves fast close. This will occur when the RO trips the main turbine when >30% power.
C. Correct - 2 MSIV's closing at 100% will cause Rx pressure to rise, resulting in a scram. Scram setpoint is also the entry condition for T-101.
D. Incorrect - WRNM is bypassed in Mode 1.

Exam Level	Cognitive Level	Facility	Materials
SRO	Comprehension	PBAPS	

KA Information

Tier: E/APE   RO Grp: 1   SRO Grp: 1   RO Val: 3.5   SRO Val: 3.8   55.43 ☑

System:	295006	Scram
KA Group Num:	AA2	Ability to determine and/or interpret the following as they apply to:
KA Detail Num:	AA2.06	Cause of Reactor Scram

Question Source Information

Ques Source: New   Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
'A' Channel Reactor Auto Scram	ARC-205 B-1	7	2	6	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.C.2	16	8	1

935

Question Data for Test: AUGUST 2001 SRO

Question: 316

Unit 3 was at 100% power when the following conditions occur:

* 220 F-5 "Inverter Trouble" alarms.
* 210 B-2 "SDV Hi Water Level Trip" alarms.
* 211 B-1 "A Channel Reactor Auto Scram" alarms.
* 211 C-1 "B Channel Reactor Auto Scram" alarms.
* A loss of Control Rod Position indication on the Full Core Display.

Based on the above conditions, reactor power is monitored from _____(1)______, and if it's less than 4%, procedure _____(2)______ is entered.

- [ ] A (1) 20C05 WRNM Operator Displays (2) T-101 "RPV Control"
- [ ] B (1) 20C05 APRM Operator Displays (2) T-100 "Scram"
- [ ] C (1) Safety Parameter Display System (SPDS) (2) T-101 "RPV Control"
- [x] D (1) 20C036 WRNM Indications (2) T-100 "Scram"

Explanation of Answer

This question satisfies 10CFR 55.43(b)(5).

A. Incorrect - 20C05 operator displays fail as is. If power is less than 4%, even with an ATWS, T-100 is entered, not T-101.
B. Incorrect - 20C05 APRM Operator Displays fail as is on a loss of uninterruptable.
C. Incorrect - SPDS is not allowed to be used to determine reactor power for decision making out of the TRIP procedures. T-101 is the wrong TRIP to enter if power was less than 4%.
D. Correct - With a loss of uninterruptable power, the WRNM indicators on the back panel (20C036) are operable. With power less than 4%, T-100 is entered.

Exam Level	Cognitive Level	Facility	Materials
SRO	Comprehension	PBAPS	

KA Information

Tier: E/APE | RO Grp: 1 | SRO Grp: 1 | RO Val: 4.1 | SRO Val: 4.3 | 55.43 ☑

System:	295015	Incomplete Scram
KA Group Num:	A2	Ability to determine and/or interpret the following as they apply to an incomplete scram.
KA Detail Num:	AA2.01	Reactor Power

Question Source Information

Ques Source:	New	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Scram	T-100	S-15	8	10	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.B.1	7	8	11

94s

Question Data for Test: AUGUST 2001 SRO

Question: 317

Unit 2 is operating at 69% power. A leak from the RWCU System in the Reactor Building has caused the following conditions to exist:

* RPV Pressure: 950 psig
* Wide Range and Fuel Zone RPV level instrumentation indicates approximately 20 inches.
* 003 B-1 "2 UNIT REAC BLDG HI RADIATION" is alarming.
* ARM 2.11 is reading 5,000 mR/HR.
* ARM 1.2 is reading 4,000 mR/HR.
* 210 J-3 "HIGH AREA TEMP" is alarming.
* "AREA TEMPERATURE" recorder TR-2-13-139 point 22 is reading 115 degrees F.
* "AREA TEMPERATURE" recorder TR-2-13-139 point 30 is reading 165 degrees F.
* There have been no reports/indications that the leak is isolated.

Considering the present conditions, which of the following is required to be performed?

- [ ] A GP-3, "Normal Plant S/D"
- [x] B GP-4, "Manual Reactor Scram"
- [ ] C T-112, "Emergency Blowdown"
- [ ] D T-116, "RPV Flooding"

Explanation of Answer

This question satisfies the criteria of 10CFR 55.43 (b)(5).
A. Incorrect - A primary system is discharging into the Reactor Building AND an action level is exceeded on Secondary Containment temperature. This requires a GP-4.
B. Correct
C. Incorrect - There is only 1 Secondary Containment temperature action level exceeded. T-112 emergency blowdown requires exceeding action levels in more than one area.
D. Incorrect - RPV level indication is still accurate.

Exam Level	Cognitive Level	Facility	Materials
SRO	Comprehension	PBAPS	T-103

KA Information

Tier: E/APE | RO Grp: | SRO Grp: 2 | RO Val: | SRO Val: 3.8 | 55.43 ☑

System: 295032 | High Secondary Containment Area Temperature

KA Group Num:	EA2	Ability to determine and/or interpret the following as they apply to:
KA Detail Num:	EA2.01	Area Temperature

Question Source Information

Ques Source:	Bank	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	4	17	8	2

(95)

Question Data for Test: AUGUST 2001 SRO

Question: 318

T-101 "RPV Control", and T-102 "Primary Containment Control" have been entered due to a catastrophic Loss of Coolant Accident. Prior to the LOCA, XIC 80411A "A CAC/CAD Analyzer" was in service, monitoring the upper Drywell. XIC 80411B "B CAC/CAD Analyzer" was in standby.

Two minutes after directing the PRO to place CAD in service, he reports that the "A CAC/CAD Analyzer" AND the "B CAC/CAD Analyzer" are in service, with the following readings:

* Drywell and Torus H2 concentration is 0.6%
* Drywell and Torus O2 concentration is 0.6%.

Chemistry has determined that venting the containment will not exceed ODCM limits.

What actions are required for these conditions?

- [ ] A — Immediately vent the Drywell via the 2 inch vents.
- [ ] B — Immediately vent the Drywell via any possible path.
- [x] C — If these conditions are still present after approximately 18 minutes, then vent the Drywell directly or indirectly via a 2 inch vent line.
- [ ] D — If these conditions are still present after approximately 18 minutes, then vent the Drywell via any possible path.

Explanation of Answer

This question satisfies 10CFR 55.43 (b)(5). The candidate must know the as built design of the CAD System Analyzers in order to ascertain accurate H2/O2 concentrations.
A. Incorrect - Analyzer not accurate at this point.
B. Incorrect - Analyzer not accurate at this point AND can only use the 2 inch vents at this point.
C. Correct
D. Incorrect - Can only use a 2 inch vent line.

Exam Level	Cognitive Level	Facility	Materials
SRO	Application	PBAPS	T-102

KA Information

Tier: E/APE RO Grp: 1 SRO Grp: 1 RO Val: 2.2 SRO Val: 2.9 55.43 [x]

System: 500000 High Containment Hydrogen Concentration

KA Group Num: 2.2 Equipment Control

KA Detail Num: G.2.2.15 Ability to identify and utilize as-built design and configuration change documentation to ascertain expected current plant configuration and operate the plant.

Question Source Information

Ques Source:	New	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
DW & Torus H2/O2 Sampling	RRC 7J.1-2	1	1	0	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.C.3	17	8	

965

Question Data for Test: AUGUST 2001 SRO

Question: 319

Unit 2 was operating at 100% power when a Reactor Scram was attempted due to Main Turbine vibration. The following conditions exist:

* Main Turbine is tripped.
* An ATWS is in progress.
* RPV level is -175 inches and steady, being controlled in accordance with T-240-2.
* RPV pressure is being controlled with Bypass Valves and SRV's, within a band of 950-1050 psig.
* Steam Tunnel temperatures are 173 degrees and rising.
* T-221 "MSIV Bypass" has been performed.

In accordance with the TRIP procedures, which of the following procedures need to be accomplished?

- [ ] A. AO 40B.1-2 "Raising MSL Tunnel PCIS Group I Hi Temp Trip Setpoint
- [ ] B. GP-8.B "PCIS Isolation - Groups II and III"
- [ ] C. T-227-2 "Defeating RWCU Isolation Interlock"
- [x] D. T-222-2 "Secondary Containment Ventilation Bypass"

Explanation of Answer

This question satisfies 10CFR 55.43(b)(5). The candidate must know that a containment isolation is rapidly approaching and if not bypassed, will result in compromising the primary containment.

A. Incorrect - While performing this AO would bypass a PCIS Group I isolation, it is not directed from
T-117.
B. Incorrect - GP-8.B cannot be reset with RPV level <1 inch.
C. Incorrect - T-227-2 is for pressure control, it is not directed out of T-117.
D. Correct - T-221-2 directs the operator to perform T-222-2.

Exam Level	Cognitive Level	Facility	Materials
SRO	Comprehension	PBAPS	TRIP procedures.

KA Information

Tier	RO Grp	SRO Grp	RO Val	SRO Val	55.43
E/APE	1	1	4.0	4.2	☑

System:	295037	Scram condition present and reactor power above APRM downscales or unknown
KA Group Num:	A2	Ability to determine and/or interpret the following as they apply to:
KA Detail Num:	EA2.07	Containment Conditions/Isolations

Question Source Information

Ques Source:	New	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Secondary Cont. Ventilation Bypas	T-222-2	1.0	1	6	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.C.9	18	8	13

975

Question Data for Test: AUGUST 2001 SRO

Question: 351

Unit 3 is operating at 100% power. New fuel receipt and inspection is occurring in preparation for the 3R13 Refueling Outage.

To support this task, a Spent Fuel Storage Pool Water Level of at least _____(1)_____ is required to ensure that the radiological consequences of a fuel handling accident do not exceed the _____(2)_____.

- [x] A (1) 232 feet 3 inches, (2) 10 CFR 100 doses at the site boundary
- [ ] B (1) 232 feet 3 inches, (2) T-103 action levels on the Refuel Floor
- [ ] C (1) 20 feet above the spent fuel, (2) T-104 alert levels for rad release
- [ ] D (1) 20 feet above the spent fuel, (2) T-104 General Emergency levels for rad release

Explanation of Answer

This question satisfies 10 CFR 55.43(b)(2).

A. Correct - Tech Spec 3.7 describes the minimum Spent Fuel Storage Pool Water Level as 232 feet 3 inches. Tech Spec Bases describe the reason is to ensure 10 CFR 100 does at the site boundary are not exceeded during a refueling accident.
B. Incorrect - Storage tank level is correct, but the bases is not.
C. Incorrect - 22 feet above spent fuel corresponds to 232 feet 6 inches. Bases is incorrect.
D. Incorrect - 22 feet above spent fuel corresponds to 232 feet 6 inches. Bases is incorrect.

Exam Level	Cognitive Level	Facility	Materials
SRO	Memory	PBAPS	

KA Information

Tier: E/APE RO Grp: 3 SRO Grp: 1 RO Val: 3.4 SRO Val: 3.7 55.43: [x]

System: 295023 Refueling Accidents

KA Group Num: AA2 Ability to determine and/or interpret the following as they apply to ___:

KA Detail Num: AA2.02 Fuel Pool Level

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Spent Fuel Level Tech Spec Bases	B.3.7		.3.7-29	2.0	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Intro to Improved Tech Specs	PLOT-1800	II.B.3	6	7	1d

98s

Question Data for Test: AUGUST 2001 SRO

Question: 358

Unit 2 is operating at 100% power with the following conditions:

* Annunciator 221 A-5 "HPCI Pump Room Flood" alarms.
* An Equipment Operator reports that level in the HPCI Room is 2.5 feet, and that the water is due to a packing leak on MO-2-23-17 "HPCI Cond Tank Suction"

Procedure _____(1)_____ shall be entered, and a _____(2)_____ will be performed.

- [ ] A (1) GP-3 "Normal Plant Shutdown", (2) GP-15 "Local Evacuation"
- [ ] B (1) SE-9 "Radioactive Spill", (2) GP-4 "Manual Reactor Scram"
- [ ] C (1) T-103 "Secondary Containment Control", (2) T-112 "Emergency Blowdown"
- [x] D (1) T-103 "Secondary Containment Control", (2) GP-15 "Local Evacuation"

Explanation of Answer

This question meets the criteria of 10 CFR 55.43(b)(5).

A. Incorrect - ARCs 221 A-5 AND 224 A-4 are entry conditions into T-103.
B. Incorrect - While SE-9 is appropriate, there is no reason to manually scram the reactor.
C. Incorrect - There is no procedural requirement to perform a T-112.
D. Correct - In accordance with T-103.

Exam Level	Cognitive Level	Facility	Materials
SRO	Comprehension	PBAPS	T-103

KA Information

Tier: E/APE RO Grp: 3 SRO Grp: 2 RO Val: 3.1 SRO Val: 3.1 55.43 ☑

System: 295036 Secondary Containment High Sump/Area Water Level

KA Group Num: A2 Ability to determine and/or interpret the following as they apply to _____:

KA Detail Num: EA2.02 Water level in the affected area.

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met:

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Secondary Containment Control-B	T-103 Bases	SC/L	10-12	12	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	II.C.4	17	8	1

99.5

Question Data for Test: AUGUST 2001 SRO

Question: 394

Unit 2 performed a T-112 "Emergency Blowdown" due to the core being uncovered. The following conditions exist:

* All Narrow Range Level instruments indicate 5 inches and steady.
* "A" Wide Range Level instrument indicates -125 inches and steady.
* "B" Wide Range Level instrument indicates -118 and steady.
* Fuel Zone Level instrument indicates -130 inches and steady.
* Drywell Bulk Average Temperature (points 126 and 127) indicates 510 F.
* RPV pressure indicates 70 psig.

Which of the above indicators have valid indication?

- [ ] A. Wide Range "A" AND Fuel Zone.
- [ ] B. Wide Range "A" AND Narrow Range.
- [x] C. Wide Range "B" AND Fuel Zone.
- [ ] D. Narrow Range AND Fuel Zone.

Explanation of Answer:

This question satisfies 10CFR 55.43(b)(5).

A. Incorrect - Wide Range "A" is below Minimum Indicated Level.
B. Incorrect - Wide Range "A" is below Minimum Indicated Level, AND Narrow Ranges are also below their Minimum Indicated Level.
C. Correct .
D. Incorrect - Narrow Range instruments are all below their Minimum Indicated Level.

Exam Level	Cognitive Level	Facility	Materials
SRO	Comprehension	PBAPS	

KA Information

Tier: E/APE | RO Grp: 1 | SRO Grp: 1 | RO Val: 4.4 | SRO Val: 4.4 | 55.43 ☑

System:	295031	Reactor Low Water Level
KA Group Num:	EA2	Ability to determine and/or interpret the following as they apply to:
KA Detail Num:	EA2.01	Reactor Water Level Indication

Question Source Information

Ques Source: New

Question Source:

Ques Mod Met

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Primary Containment Control	T-102	DW/T-1	1	13	

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
Trip Procedures	PLOT-1560	2.c.3	17	8	11

(21)
(100S)

Question Data for Test: AUGUST 2001 SRO

Question: 348	Unit 2 is in MODE 3, with the "A" Loop of RHR in Shutdown Cooling using the "2A RHR Pump". Reactor pressure unexpectedly rises to 75 psig. A Shutdown Cooling _____(1)_____ isolation occurs, and procedure _____(2)_____ shall be entered.
☑ A	(1) suction, (2) ON-125 "Loss of Shutdown Cooling"
☐ B	(1) suction, (2) GP-12 "Core Cooling Procedure"
☐ C	(1) return, (2) ON-125 "Loss of Shutdown Cooling"
☐ D	(1) return, (2) GP-12 "Core Cooling Procedure"
Explanation of Answer	This question satisfies the criteria of 10 CFR 55.43(b)(5). A. Correct - RPV pressure >70# is a SDC suction isolation only ON-125 is entered when an unexpected or unexplained loss of SDC occurs. B. Incorrect - GP-12 is entered when there is a planned removal of SDC. C. Incorrect - Return valve(s) (MO-25A(B) do not isolate an RPV pressure. D. Incorrect - Return valve(s) (MO-25A(B) do not isolate an RPV pressure and also, the wrong procedure.

Exam Level	Cognitive Level	Facility	Materials
SRO	Comprehension	PBAPS	

KA Information

Tier: E/APE RO Grp: 3 SRO Grp: 2 RO Val: 3.2 SRO Val: 3.3 55.43 ☑

System:	295021	Loss of Shutdown Cooling
KA Group Num:	AA2	Ability to determine and/or interpret the following as they apply to ____:
KA Detail Num:	AA2.06	Reactor Pressure

Question Source Information

Ques Source:	New	Question Source	
Ques Mod Met			

References

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RHR System	PLOT-5010	II.D.6	34	2	40

Reference Title	Facility Ref. No.	Section	Pg #	Rev.	L.O.
RHR System	PLOT-5010	II.D.6	34	2	4n