U. S. Nuclear Regulatory Commission Region I
Operator Licensing Examination Report

Report Nos.:	50-277/91-26 (OL) 50-278/91-26 (OL)
Docket Nos.:	50-277 50-278
License Nos.:	DRP-44 DRP-56
Licensee:	Philadelphia Electric Company P. O. Box 195 Wayne, Pennsylvania 19087-0195
Facility Name:	Peach Bottom Atomic Power Station, Units 2 & 3
Examination at:	Delta, Pennsylvania
Examination Dates:	August 26 - 30, 1991
Examiners:	J. Canady, Reactor Engineer (cert.) B. Norris, Project Inspector B. Wetzel, Reactor Engineer H. Williams, Sr. Operations Engineer

Chief Examiner J. H. Williams, Sr. Operations Engineer — Date 10/17/91

Approved by Richard J. Conte, Chief, BWR Section, Operations Branch, DRS — Date 10/17/91

Examination Summary

Initial examinations were administered to four senior reactor operators (SRO) candidates and six reactor operator (RO) candidates. Nine candidates passed their examinations and one SRO candidate failed the operating portion of the examination. Overall the candidates were prepared for their licensing examinations (Section 3 has details).

Details

1.0 INTRODUCTION AND OVERVIEW

The NRC examiners administered replacement examinations to four senior reactor operators (SRO) candidates and six reactor operator (RO) candidates. The examinations were administered in accordance with NUREG 1021, Examiner Standards, Rev. 6, dated June 1, 1990.

Prior to administration of the written examinations, a preexamination review was conducted on August 21, 1991, at the Peach Bottom Training Center. Present at the review were a member of the training department staff, an SRO who was a previous shift manager, and members of the NRC examination team. The simulator scenarios used for the examinations were run on the plant specific simulator, with the assistance of a facility supplied simulator operator, prior to being administered. All facility individuals with knowledge of the examination materials signed security agreements to ensure that there was no compromise of the examination.

2.0 PERSONS CONTACTED

2.1 U.S. Nuclear Regulatory Commission

*J. Cardy, Reactor Engineer, OLB
B. Dean, Supervisor, OLB
*J. Lyash, Senior Resident Inspector
B. Norris, Project Inspector
B. Wetzel, Reactor Engineer, OLB
*J. Williams, Senior Operations Engineer

2.2 Philadelphia Electric Company

*R. Andrews, Supervisor, Operations Training
*R. Birley, Instructor, LOT
*D. Foss, Regulatory Group Leader
*J. Lyter, Senior Instructor, LOT
*P. Nielsen, Instructor, LOT
*T. Niessen, Operations Superintendent
*K. Powers, Plant Manager
*R. Smith, Regulatory Inspection Coordinator
*J. Stankiewicz, Superintendent, Training
*R. Tyler, Simulator Support

*Denotes those present at the exit interview on September 3, 1991.

3.0 EXAMINATION RELATED FINDINGS AND CONCLUSIONS

3.1 Examination Results

	RO Pass/Fail	SRO Pass/Fail
Written	6/0	4/0
Operating	6/0	3/1
Overall	6/0	3/1

3.2 Operating Examination

The following is a summary of generic strengths and weaknesses noted on the operating tests. This information is being provided to aid the licensee in upgrading the license training program. No licensee written response is required.

Strengths

- Knowledge of location of plant equipment, instrumentation and controls.
- Use of plant procedures
- Use of P&IDs

Weaknesses

- None observed

The following observations were made during the operating exam. These observations were discussed with the licensee who indicated that appropriate actions would be taken.

Simulator concerns were discussed as described in Attachment 5.

The Chief Examiner expressed concern over the difficulty and time delays that all examiners had in logging onto the Radiation Work Permit (RWP). Each time an examiner logged on the RWP, special permission from an HP supervisor needed to be obtained. This created an unnecessary stress on the candidate and a delay in the examination.

During one walk-through exam, the candidate and examiner noted bags of radioactive waste lying around with one bag open and unattended with some of the trash spilling out of the bag onto the floor.

Procedure SO 1G.7.C-2, "ADS Reset Following Blowdown," had an error in labeling the pushbutton (2E-S3A and 2E-S3B) to reset the high pressure signal. This error was noted by a candidate.

The label plate was missing for DC load on the HPCI Alternate Shutdown Panel.

Procedure T-210,"CRD System SBLC Injection," required the use of a manual valve which should have been described on the equipment list in section 2.5, but was not.

3.3 Written Examination

Areas of weakness are noted below, signified by at least three operators (ROs) missing the question. An area not noted as a weakness may be assumed to be a strength. This information is being provided to aid the licensee in upgrading its license training program. No licensee written response is required.

Weaknesses

- knowledge of radiation exposure limits
- knowledge of instruments and controls associated with recirculation pump speed changes.
- knowledge of reactor vessel internals
- knowledge of Area Radiation Monitors (ARMs)

4.0 EXIT INTERVIEW

The exit meeting was conducted on September 3, 1991, at the site. The licensee representatives that attended the exit meeting are listed in section 2 of this report. No examination strengths or weaknesses were discussed at the exit meeting. Observations made during the operating exams were discussed. The results of the examination were not presented. The Chief Examiner stated that the results would be contained in the Examination Report.

Attachment 4

NRC RESOLUTION TO FACILITY COMMENTS

SRO Question 37 and RO Question 52
NRC Resolution: Comment accepted. Change the correct answer to B; the answer key was incorrect.

SRO Question 77
NRC Resolution: Comment accepted. Accept either A or D for item 2.

SRO Question 97
NRC Resolution: Comment accepted. Accept either A or D as a correct response.

Attachment 5

SIMULATION FACILITY REPORT

Facility Licensee: Philadelphia Electric Company

Facility Docket Nos.: 50-277
50-288

Operating Tests Administered from: August 27 - 28, 1991

These observations do not constitute audit or inspection findings and are not, without further verifications and review, indications of noncompliance with 10CFR 55.45(b). These observations do not affect NRC certification or approved of the simulation facility other than to provide information which may be used in future evaluations. No licensee action is required in response to these observations.

Item	Description
NSSS Codes (PI, OD-x)	Core thermal performance calculation capability was not available during the examination period.
PMS terminal on Operator's desk	The plant performance monitoring system (PMS) terminal was not functioning properly and was not tagged out of service.
Recirculation Loop drive flows	During a scenario, RRS19A, Jet pump #1 riser failure occurred. Flow indication in loop A should have decreased but did not.
Temperature Recorder TRS-2-10-131	During a scenario, when the operator placed shutdown cooling service, no temperature change was observed on TRS-2-10-131 for the RHR Heat Exchanger outlet temperatures.
Loss of all AC power	During scenario verification, with one diesel-generator running, the simulator could not execute IPM01 for loss of all AC power.
Recirculation pump vibration monitor alarm.	During a scenario, the alarm occurred (RRS II) but did not clear in the same manner as it does in the plant. The plant vibration monitor alarm was modified, but the simulator facility has not obtained the documentation to allow the change to be made on the simulator.

Attachment 1

NRC Official Use Only

MASTER

RO

Nuclear Regulatory Commission
Operator Licensing
Examination

This document is removed from
Official Use Only category on
date of amination.

NRC Official Use Only

U. S. NUCLEAR REGULATORY COMMISSION
SITE SPECIFIC EXAMINATION
REACTOR OPERATOR LICENSE
REGION 1

CANDIDATE'S NAME: _____

FACILITY: Peach Bottom 2 & 3

REACTOR TYPE: BWR-GE4

DATE ADMINISTERED: 91/08/26

INSTRUCTIONS TO CANDIDATE:

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. Points for each question are indicated in parentheses after the question. The passing grade requires a final grade of at least 80%. Examination papers will be picked up four (4) hours after the examination starts.

TEST VALUE	CANDIDATE'S SCORE	%	
100.00	_____	___ %	TOTALS
	FINAL GRADE		

All work done on this examination is my own. I have neither given nor received aid.

_____
Candidate's Signature

A N S W E R S H E E T

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

MULTIPLE CHOICE

001	a	b	c	d	___
002	a	b	c	d	___
003	a	b	c	d	___
004	a	b	c	d	___
005	a	b	c	d	___
006	a	b	c	d	___
007	a	b	c	d	___
008	a	b	c	d	___
009	a	b	c	d	___
010	a	b	c	d	___
011	a	b	c	d	___
012	a	b	c	d	___
013	a	b	c	d	___
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018	a	b	c	d	___
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023	a	b	c	d	___
024	a	b	c	d	___
025	a	b	c	d	___
026	a	b	c	d	___
027	a	b	c	d	___
028	a	b	c	d	___
029	a	b	c	d	___
030	a	b	c	d	___
031	a	b	c	d	___
032	a	b	c	d	___
033	a	b	c	d	___
034	a	b	c	d	___
035	a	b	c	d	___
036	a	b	c	d	___
037	a	b	c	d	___
038	a	b	c	d	___
039	a	b	c	d	___
040	a	b	c	d	___
041	a	b	c	d	___
042	a	b	c	d	___
043	a	b	c	d	___
044	a	b	c	d	___
045	a	b	c	d	___

A N S W E R S H E E T

Multiple Choi (Circle or X your choice)

If you change your answer, write your selection in the blank.

046	a	b	c	d	___	069	a	b	c	d	___
047	a	b	c	d	___	070	a	b	c	d	___
048	a	b	c	d	___	071	a	b	c	d	___
049	a	b	c	d	___	072	a	b	c	d	___
050	a	b	c	d	___	073	a	b	c	d	___
051	a	b	c	d	___	074	a	b	c	d	___
052	a	b	c	d	___	075	a	b	c	d	___
053	a	b	c	d	___	076	a	b	c	d	___
054	a	b	c	d	___	077	a	b	c	d	___
055	a	b	c	d	___	078	a	b	c	d	___
056	a	b	c	d	___	079	a	b	c	d	___
057	a	b	c	d	___	080	a	b	c	d	___
058	a	b	c	d	___	081	a	b	c	d	___
059	a	b	c	d	___	082	a	b	c	d	___
060	a	b	c	d	___	083	a	b	c	d	___
061	a	b	c	d	___	084	a	b	c	d	___
062	a	b	c	d	___	085	a	b	c	d	___
063	a	b	c	d	___	086	a	b	c	d	___
064	a	b	c	d	___	087	a	b	c	d	___
065	a	b	c	d	___	088	a	b	c	d	___
066	a	b	c	d	___	089	a	b	c	d	___
067	a	b	c	d	___	090	a	b	c	d	___
068	a	b	c	d	___	091	a	b	c	d	___

A N S W E R S H E E T

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

092 a b c d ___

093 a b c d ___

094 a b c d ___

095 a b c d ___

096 a b c d ___

097 a b c d ___

098 a b c d ___

099 a b c d ___

100 a b c d ___

(********** END OF EXAMINATION **********)

NRC RULES AND GUIDELINES FOR LICENSE EXAMINATIONS

During the administration of this examination the following rules apply:

1. Cheating on the examination means an automatic denial of your application and could result in more severe penalties.

2. After the examination has been completed, you must sign the statement on the cover sheet indicating that the work is your own and you have not received or given assistance in completing the examination. This must be done after you complete the examination.

3. Restroom trips are to be limited and only one applicant at a time may leave. You must avoid all contacts with anyone outside the examination room to avoid even the appearance or possibility of cheating.

4. Use black ink or dark pencil ONLY to facilitate legible reproductions.

5. Print your name in the blank provided in the upper right-hand corner of the examination cover sheet and each answer sheet.

6. Mark your answers on the answer sheet provided. USE ONLY THE PAPER PROVIDED AND DO NOT WRITE ON THE BACK SIDE OF THE PAGE.

7. Before you turn in your examination, consecutively number each answer sheet, including any additional pages inserted when writing your answers on the examination question page.

8. Use abbreviations only if they are commonly used in facility literature. Avoid using symbols such as < or > signs to avoid a simple transposition error resulting in an incorrect answer. Write it out.

9. The point value for each question is indicated in parentheses after the question.

10. Show all calculations, methods, or assumptions used to obtain an answer to any short answer questions.

11. Partial credit may be given except on multiple choice questions. Therefore, ANSWER ALL PARTS OF THE QUESTION AND DO NOT LEAVE ANY ANSWER BLANK.

12. Proportional grading will be applied. Any additional wrong information that is provided may count against you. For example, if a question is worth one point and asks for four responses, each of which is worth 0.25 points, and you give five responses, each of your responses will be worth 0.20 points. If one of your five responses is incorrect, 0.20 will be deducted and your total credit for that question will be 0.80 instead of 1.00 even though you got the four correct answers.

13. If the intent of a question is unclear, ask questions of the examiner only.

14. When turning in your examination, assemble the completed examination with examination questions, examination aids and answer sheets. In addition, turn in all scrap paper.

15. Ensure all information you wish to have evaluated as part of your answer is on your answer sheet. Scrap paper will be disposed of immediately following the examination.

16. To pass the examination, you must achieve a grade of 80% or greater.

17. There is a time limit of four (4) hours for completion of the examination.

18. When you are done and have turned in your examination, leave the examination area (EXAMINER WILL DEFINE THE AREA). If you are found in this area while the examination is still in progress, your license may be denied or revoked.

QUESTION: 001 (1.00)

Which ONE of the following statements describes the responsibility of the OFFGOING Unit Reactor Operator?

A. Conducts shift briefing with oncoming plant equipment operators.

B. Terminates the shift turnover process by completing part B of Shift Turnover Record.

C. Performs a walkdown of the Unit Control boards and panels with oncoming operator.

D. Documents out-of-specification parameters on Part D of the Shift Turnover Record.

QUESTION: 002 (1.00)

A corporate tour group is currently visiting Peach Bottom. One of the group members is a 36 year old ex-radiation worker who has completed an NRC-4 form with a total exposure of 88 REM. This individual has also completed the General Employee Training, (Cat I/Cat II) and as such his exposure is not limited due to his "visitor" status. Which ONE of the following is the whole body administrative quarterly dose limit for this individual (NO extensions)?

A. 100 mRem/qtr

B. 1000 mRem/qtr

C. 2000 mRem/qtr

D. 2500 mRem/qtr

QUESTION: 003 (1.00)

Which ONE of the following is a blocking tag that would allow the permit holder to test or operate selected components of the tagged equipment?

A. Equipment Trouble Tag

B. Red Danger Tag

C. Special Condition Tag

D. Information Tag

QUESTION: 004 (1.00)

In accordance with A-40, Working Hour Restrictions, which ONE of the following times describes the MAXIMUM number of hours shift operations personnel SHALL be permitted to work STRAIGHT, excluding shift turnover time?

A. 12 hours

B. 14 hours

C. 16 hours

D. 18 hours

QUESTION: 005 (1.00)

What controlled area is defined as any accessible area in which a major portion of the whole body would receive greater than or equal 100 mRem/hr.

A. Locked Radiation Area

B. Radiation Area

C. Locked High Radiation Area

D. High Radiation Area

QUESTION: 006 (1.00)

In accordance with A-1, "Administrative Procedure Preparation", the statement "Denotes a recommendation to be adhered to unless conditions warrant deviation" is the defir'tion of which ONE of the following?

A. Should

B. Shall

C. May

D. Will

QUESTION: 007 (1.00)

During operation at 100% power an Auxiliary Operator conducting periodic checks on plant safety related equipment discovers an RHR system manual valve to be out of its normal position.

Which ONE of the following describes the action to be taken in accordance with OM-11, "Verification"?

A. Immediately reposition the valve and notify security for acts of possible sabotage.

B. Notify the Unit Reactor Operator or Chief Operator and obtain permission prior to repositioning the valve.

C. Reposition the valve to its correct position and notify the Unit Reactor Operator.

D. Verify the valve is misaligned through independent verification and record on log sheet for turnover.

QUESTION: 008 (1.00)

In accordance with 10CFR26 "Fitness for Duty Program," which ONE of the following is the MINIMUM period to abstain from alcohol preceding any normal scheduled shift?

A. 3 hours

B. 5 hours

C. 8 hours

D. 12 hours

QUESTION: 009 (1.00)

In accordance with OM-8,"Logs and Rounds", which ONE of the following statements applies to a Surveillance Log?

A. Completed by Floor Operators at least weekly.

B. Identifies specific evolutions that must be performed.

C. Contains recorded data that satisfies Tech Spec requirements.

D. Chronologically describes the evolutions and status of the plant.

QUESTION: 010 (1.00)

Technical Specifications set maximum limits on chlorides in the reactor coolant system. Which ONE of the following statements describes the reason for this limit?

A. Chlorides catalyze the oxidation of carbon steel.

B. Chlorides cause stress cracking of the stainless steel.

C. Chlorides increase galvanic corrosion at dissimilar metal junctions.

D. Chlorides increase the formation of insoluble metallic corrosion products.

QUESTION: 011 (1.00)

In accordance with ON-115, "Loss of Normal Main Control Room Ventilation-Procedure", which ONE of the following statements describes a requirement for a rapid shutdown of both units?

A. Control Room ventilation is lost due to high radiation.

B. Control Room temperature is greater than 100 degrees F.

C. Control Room outside air filter train fails to start.

D. Control Room CAM Beta count rate increases to 100 cpm.

QUESTICN: 012 (1.00)

Which ONE of ıe following statements is a responsibility of all PECO employees and contractors in regards to the ALARA Program?

A. Request an ALARA review when it may reduce occupational exposure.

B. Ensure that ALARA reviews are properly documented and recorded.

C. Review ALARA procedures prior to signing a Radiation Work Permit (RWP).

D. Rotate work assignments in order to maintain radiation exposure ALAKA.

QUESTION: 013 (1.00)

Unit 3 was operating at 100% power when a scram signal was received. While performing scram actions, it was noted that RPV level cannot be determined and that one rod failed to fully insert. Based on the given infcrmation, which ONE of the following procedures has priority in being performed?

A. ON - 106, Stuck Control Rod

B. SO - 6, Feed Water System

C. T - 101, RPV Control

D. T - 100 Scram

QUESTION: 014 (1.00)

Which ONE of the following speed combinations in the table below reflects the response of the reactor recirculation system to a 4% step change in the "A" Recirculation M/A output if the associated deviation meter changes from a 'null' indication to 'negative' indication?

Note: Assume the reactor recirculation system is operating in individual manual control during the event.

	RECIRC PUMP "A" SPEED	RECIRC PUMP "B" SPEED
A.	increases	decreases
B.	increases	remains unchanged
C.	decreases	increases
D.	decreases	remains unchanged

QUESTION: 015 (1.00)

The Unit 2 RHR/LPCI system receives a valid initiation signal as a result of a LOCA on the loop "A" reactor recirculation pump suction piping, with off-site power available. Which ONE of the following is the correct RHR pump sequence of events that occurs automatically?

A. RHR pump A & B automatically start after 2 seconds then, RHR pump C & D automatically start after 8 seconds.

B. RHR pump A & C automatically start after 2 seconds then, RHR pump B & D automatically start after 8 seconds.

C. RHR pump B & D automatically start after 2 seconds then, RHR pump A & C automatically start after 8 seconds.

D. RHR pump B & C automatically start after 2 seconds then, RHR pump A & D automatically start after 8 seconds.

QUESTION: 016 (1.00)

The LPCI mode of RHR is manually initiated from the control room in accordance with SO 10.7.A-3, rev 3. Which ONE of the following is a permissive for the opening of LPCI injection valve MO-25?

A. Emergency generator running and loaded

B. Reactor pressure less than 450 psig

C. Minimum flow valve MO-16 closed

D. Low-Low Reactor water level (-48 inches)

QUESTION: 017 (1.( )

Which ONE of the f[illegible]owing statements is correct regarding the LPCI Lockout reset pushb[illegible]ton (S1A).

A. If during a LOCA the containment spray valves were not opened, pushing this button restores normal operation.

B. Pushing this button will cause MO-25 (LPCI injection valve) to automatically close after the LOCA signal is cleared.

C. Pushing this button allows MO-53, the recirc pump discharge valve, to be reopened when the LOCA signal clears.

D. Pushing this button will allow LPCI flow to be diverted to torus cooling following a LPCI injection.

QUESTION: 018 (1.00)

SO 23.2.A-2 "HPCI System Shutdown and Return to Standby from Operation" contains a precaution which states "DO NOT throttle the HPCI turbine below 2200 rpm". Which ONE of the following statements describes the basis for this precaution?

A. The HPCI steam flow required to maintain the lower rpm could lead high temperature HPCI isolation.

B. Since the flow controller signal to the MGU has no effect below the Low Speed Stop, HPCI turbine speed cannot be controlled during a HPCI system shutdown below 2200 rpm.

C. At low speeds intermittent exhaust flow and water hammer in the exhaust line could damage the exhaust check values.

D. At low speeds and hence low flows, the minimum flow valve cycles excessively which causes water hammer in the minimum flow line which has been known to cause cracking at the weld point to the torus.

QUESTION: 019 (1.00)

HPCI full flow functional testing is in progress at 95% power. Which ONE of the following statements describes the final status of the following HPCI valves upon receiving a valid initiation signal?

(1) MO-21, HPCI Test Return valve
(2) MO-17, HPCI CST suction valve
(3) MO-57 & MO-58, HPCI torus suction valves

A. (1) MO-21 close.
(2) MO-17 open.
(3) MO-57 & MO-58 close.

B. (1) MO-21 open.
(2) MO-17 open.
(3) MO-57 & MO-58 close.

C. (1) MO-21 open.
(2) MO-17 close.
(3) MO-57 & MO-58 open.

D. (1) MO-21 close.
(2) MO-17 close.
(3) MO-57 & MO-58 open.

QUESTION: 020 (1.00)

Unit 2 is operating at 87% power. The Core Spray System is lined up for automatic operation; MO-12 (Inboard Injection Valve) is shut. Which ONE of the following statements is correct regarding the opening of MO-12?

A. The valve cannot be manually opened from the control room, regardless of MO-11 (Outboard Injection Valve) position, unless a CS initiation signal is in.

B. The valve can be manually opened from the Control Room once MO-11 is shut.

C. The valve will open automatically once reactor water level reaches -160 inches.

D. The valve can be opened anytime a CS pump is running, provided MO-11 is opened first.

QUESTION: 021 (1.00)

Caution #20 in T-101 warns the operator against inhibiting ECCS operation unless "Adequate Core Cooling" is assured. Which ONE of the following statements describes "Adequate Core Cooling" per this procedure?

A. The Core Spray and RHR pumps are running with reactor pressure at 500 psig and reactor level is -230 inches.

B. The fuel is at or below the Average Planar Linear Heat Generation Rate (APLHGR) as stated in the Technical Specifications.

C. The Core Spray and RHR pumps are lined up, not injecting with reactor pressure at 0 psig and reactor water level is -160 inches.

D. The emergency core cooling systems are operating to maintain peak cladding temperatures below 2500 degrees F.

QUESTION: 022 (1.00)

Which ONE of the following statements describes the function of the Rod Out Notch Override Switch for the Reactor Manual Control System (RMCS).

A. Overrides the settle function when continuously withdrawing a control rod.

B. Allows for continuous withdrawal when in the Notch Override Position.

C. Forces the operator to use two hands to withdraw a control rod one notch.

D. Bypasses all RWM blocks and interlocks when withdrawing a control rod.

QUESTION: 023 (1.00)

Which ONE of the following statements describes a purpose of the Standby Liquid Control (SBLC) System?

A. Provides a redundant control system to the control rod system capable of maintaining adequate power distributions at levels less than 25% of rated thermal power.

B. Adds enough negative reactivity to initially shutdown the reactor from 100% power to at least hot standby until maximum xenon inventory is achieved.

C. Overcomes the positive reactivity addition due to the increase in moderator temperature, fuel temperature, and void fraction during a design ATWS.

D. Ensures that a shutdown margin of at least 3% can be maintained during the most reactive time in core life.

QUESTION: 024 (1.00)

Select the ONE statement below that describes the sequence of events that occur upon an initiation of the Standby Liquid Control (SBLC) system.

A. Both squib valves fire when one SBLC pump is started manually, aligning the flow path from the SBLC tank to the Reactor lower head.

B. When one SBLC pump is started manually, the associated squib valve fires to allow SBLC solution to be injected through the RWCU system.

C. Both SBLC pumps start automatically, taking suction on the SBLC tank and discharging the solution into the lower core area.

D. Starting the A SBLC pump activates a timer that disables a B pump start for 5 seconds to prevent a pump trip due to high starting current on bus.

QUESTION: 025 (1.00)

Which ONE of the following statements describes a sequence of events for a FULL scram to occur?

A. Both logic subchannels in one trip system (channel) must DE-ENERGIZE.

B. One logic subchannel in each trip system (channel) must DE-ENERGIZE.

C. Both logic subchannels in each trip system (channel) must ENERGIZE.

D. One logic subchannel in each trip system (channel) must ENERGIZE.

QUESTION: 026 (1.00)

Which ONE of the following is the pressure boundary for the IRM detector assembly?

A. Shuttle tube

B. Drive tube

C. Guide tube

D. Dry tube

QUESTION: 027 (1.00)

Which ONE of the following statements describes the effect of the shorting links that are used in the reactor protection system (RPS)?

A. Installation of the shorting links activates the SRM Scrams and bypasses the IRM and APRM scrams.

B. Removal of the shorting links activates the SRM scrams in a coincidence of one-out-of-two-taken twice logic scheme.

C. Installation of the shorting links activates the SRM, IRM and APRM scrams in one-out-of-two-taken twice logic schemes.

D. Removal of the shorting links enables a scram to occur if any single SRM, IRM or APRM channel trips.

QUESTION: 028 (1.00)

Which ONE of the following conditions will result in Average Power Range Monitor A becoming inoperative while operating at 100% power?

A. Less than 15 LPRM detectors operable for APRM channel A.

B. APRM Flow Unit Comparator mismatch signal fails to 5%.

C. Two LPRM detectors assigned to APRM channel A are bypassed.

D. Rod Block Monitor A fails upscale.

QUESTION: 029 (1.00)

Following a small break LOCA, drywell temperature increases while the reactor remains pressurized. Which ONE of the following statements describes the expected effect this will have upon narrow range indications?

A. Indicated level will read HIGHER than actual level due to reference leg density decrease.

B. Indicated level will read LESS than actual level due to reference leg density increase.

C. Indicated level will EQUAL actual level due to pressure compensation for temperature variations.

D. Indicated level will become ERRATIC due to actual level fluctuations caused by the small break pressure transient.

QUESTION: 030 (1.00)

The Plant is operating at 50% reactor power with the RCIC system in standby readiness condition. A valid low reactor water level initiation signal occurs due to a loss of feedwater event.

In accordance with SO-13.1.C-2, "RCIC SYSTEM AUTOMATIC INITIATION RESPONSE, which ONE of the following responses in the table below describes the expected behavior of the following RCIC components?

(1) RCIC Cooling Water Valve (CWV)
(2) RCIC Drain Isolation to Main Condenser (DIMC)
(3) RCIC Vacuum pump (VP)
(4) RCIC minimum flow valve, MO-2-13-027 (MFV)

	CWV	DIMC	VP	MFV
A.	opens	closes	auto starts	opens initially and then closes
B.	opens	closes	auto stops	closes initially and then opens
C.	closes	opens	auto stops	opens initially and then closes
D.	closes	closes	auto starts	closes initially and then opens

QUESTION: 031 (1.00)

WHICH ONE of the following signals will automatically trip the RCIC turbine?

A. High drywell pressure

B. MSIV isolation

C. Pump low suction pressure

D. High vibration

QUESTION: 032 (1.00)

The parameters for automatic initiation of the Automatic Depressurization System (ADS) are present and the blowdown timer is timing out. Which ONE of the following actions will NOT reset the blowdown timer.

A. Drywell pressure drops below 2 psig.

B. Interruption of power to the ADS logic channels.

C. Reactor level is restored above -48 inches.

D. Operation of the ADS timer reset pushbutton.

QUESTION: 033 (1.00)

Which ONE of the following actions or conditions will reclose the ADS valves once an initiating signal is sealed in?

A. Placing the ADS valve switches to the "close" position on the C03 panel.

B. Allowing the reactor to depressurize to the shutoff head of RHR and core spray.

C. Placing the keylock switches A and B in the "inhibit" position.

D. Allowing the A and B timer reset to energize the logic relays for electrical continuity.

QUESTION: 034 (1.00)

Which ONE of the following statements describes control room indications of a loss of Acoustic Monitor Power?

A. SRVs indicate OPEN with memory lights OFF

B. SRVs indicate CLOSE with memory lights ON

C. SRVs indicate OPEN with memory lights ON

D. SRVs indicate CLOSE with memory lights OFF

QUESTION: 035 (1.00)

Which ONE of the following events is the result of a PCIS Group IV initiation condition?

A. RCIC system steam supply isolation valves MO-15 and MO-16 closure.

B. RWCU system inlet and outlet valves MO-15,MO-18 and MO-68 closure.

C. Main Steam Line Drain valves MO-74 and MO-77 closure.

D. HPCI system steam supply isolation valves MO-15 and MO-16 closure.

QUESTION: 036 (1.00)

The reactor is operating at 100% power with the Electro-Hydraulic Control (EHC) load set at 100%, the maximum combined flow set at 110%, and the load limit set to 105%. Using the attached EHC diagram, which ONE of the following indicates the new position of the control and bypass valves if the load limit potentiometer is reduced to 96%?

A. Control valve position --> 96% steam flow
Bypass valve position --> 4% steam flow

B. Control valve position --> 100% steam flow
Bypass valve position --> 14% steam flow

C. Control valve position --> 96% steam flow
Bypass valve position --> 0% steam flow

D. Control valve position --> 100% steam flow
Bypass valve position --> 10% steam flow

QUESTION: 037 (1.00)

Which ONE of the following statements describes the function of the load limit potentiometer associated with the Electro-Hydraulic Control (EHC) system?

A. Automatically sets the upper limit for generator load

B. Manually operated to set upper limit on total steam flow

C. Automatically sets upper limit for load reject circuitry trip

D. Manually operated to set upper limit on steam flow to turbine

QUESTION: 038 (1.00)

Which ONE of the following conditions will yield an immediate reactor feedwater pump trip?

A. High RPV pressure (1055 psig)

B. Turbine overspeed (5900 to 6000 rpm)

C. High condenser vacuum (27 in. Hg vacuum)

D. Low crossaround steam pressure (206 psia)

QUESTION: 039 (1.00)

The plant is operating at 100% power with the Feedwater Control System in three element control. Level is stable and feed flow is matched with steam flow. Assume the "A" Steam Flow Detector fails low. Select the ONE statement that describes how the plant will respond. Assume no operator action.

A. Level stabilizes at a lower than normal level.

B. Level stabilizes at a higher than normal level.

C. Reactor scrams due to low level.

D. Reactor scrams due to high level turbine trip.

QUESTION: 040 (1.00)

Which ONE of the following conditions will result in a start of the 'A' and 'B' SBGT fans and cause both SBGT filter trains to line up?

A. 0" reactor water level on Unit 2.

B. HPCI System manual start on either unit

C. Equipment Cell Exhaust radiation > 16 mr/hr on Unit 2.

D. 2 psig drywell pressure on Unit 3

QUESTION: 041 (1.00)

The E-1 diesel generator is running for a Surveillance Test (ST) when a rupture of the Emergency Service Water piping causes a complete loss of cooling to the E-1 diesel. From the choices below, select the ONE answer that describes what will happen to the E-1 diesel.

A. The diesel will trip on high DG room temperature

B. The diesel will trip on high lube oil temperature.

C. The diesel will continue to run without any effect.

D. The diesel will continue to run, but must be manually tripped.

QUESTION: 042 (1.00)

Which ONE of the following plant parameters will result in the closure of the outboard and inboard RHR Shutdown Cooling suction isolation valves MO-17 and MO-18?

A. Reactor water level less than +6 inches

B. Drywell pressure greater 1.0 psig.

C. Reactor pressure greater than 75 psig.

D. Recirc. suction temperature greater than 320 F.

QUESTION: 043 (1.00)

Which ONE of the following describes the purpose of the Rod Worth Minimizer (RWM)?

A. Serves as a secondary mechanism to control rod movement so that fuel enthalpy will not cause fuel melt.

B. Limits control rod worth during high power and transient conditions to prevent pellet cladding interaction.

C. Serves as primary mechanism to control rod movement so that fuel enthalpy will not exceed 280 cal/g.

D. Enforces withdrawal/insertion sequences and rod patterns at low power to minimize consequences of a rod drop accident.

QUESTION: 044 (1.00)

Following a failure to scram, the unit operator begins to drive in control rods using "Emergency In" when a RWM insert block is received. Select the ONE statement that describes how the operator may continue to drive in the control rods.

A. Continue to insert rods using "Continuous In"

B. Continue to use "Emergency In" since it bypasses all rod blocks.

C. Continue to use "Emergency In" AFTER bypassing the RWM.

D. The operator cannot insert rods.

QUESTION: 045 (1.00)

Which ONE of the following statements describes a cause of a withdrawal block for the Rod Worth Minimizer (RWM)?

A. One withdrawal error exists.

B. Reactor power above LPSP

C. The selected rod is a peripheral rod.

D. The selected rod is at its group notch limit.

QUESTION: 046 (1.00)

A Caution statement in ON-113 "Loss of RBCCW" states that the Recirculation Pump should be tripped if RBCCW is not returned to service. Which ONE of the following statements is a reason for tripping the pump?

A. Prevents overheating the pump casing.

B. Prevents damage to the pump seals.

C. Prevents damage to the motor windings.

D. Prevents warping the pump shaft.

QUESTION: 047 (1.00)

Which ONE of the following statements describes the responding indications for power and drive flow upon a jet pump failure?

A. Reactor power decreases and recirc drive flow increases.

B. Reactor power increases and recirc drive flow increases.

C. Reactor power increases and recirc drive flow decreases.

D. Reactor power decreases and recirc drive flow decreases.

QUESTION: 048 (1.00)

You are the Reactor Operator during a Unit 2 startup when the Reactor Cleanup System Nonregenerative heat exchanger develops a 10 GPM leak due to a tube failure. Which ONE of the following is the expected behavior of the reactor water quality?

A. Reactor water turbidity immediately starts increasing.

B. Reactor water vessel inlet conductivity remains unaffected.

C. Reactor water vessel outlet conductivity starts increasing.

D. Reactor water PH starts decreasing.

QUESTION: 049 (1.00)

For ONE mode of the residual heat removal (RHR) system, the suction is received from MO-13A(B,C,D), Torus Suction Valve, through the RHR pump, then through the Heat Exchanger, then through MO-39A(B), Torus Header, then through MO-34A(B), Full Flow Test Valve to Torus. Which ONE of the following RHR modes does this flow path describe?

A. Torus Spray

B. Containment Spray

C. Shutdown Cooling

D. Suppression Pool Cooling

QUESTION: 050 (1.00)

Which ONE of the following controls associated with the RHR system allows bypassing the requirements for 2/3 core coverage AND the presence of a valid LOCA signal to allow opening of the containment spray valves ?

A. Containment Spray manual bypass switch (S19A)

B. Containment Spray override-keylock switch (S18A)

C. Containment Spray Valve Reset-override relay (S33A)

D. Containment Spray Valves Manual Override (S17A)

QUESTION: 051 (1.00)

Ten minutes after a LOCA occurs, the Shift Supervisor directs the Chief Operator to commence Torus Spray using the A RHR pump. Conditions are as follows:

- All 4 RHR pumps are injecting into the vessel
- RPV level = -180" and rising
- RPV pressure = 100 psig steady
- Torus pressure = 8.5 psig and rising

Which ONE of the following statements describes the expected operator response/action for initiating Torus Spray (Open Valves MO-38A and MO-39A)?

A. Reset LOCA signal and Manually initiate Torus Spray

B. Override containment spray 2/3 Core Coverage permissive.

C. Place Containment Spray Valve Control switch in "Manual"

D. Align HPSW to RHR heat exchangers prior to Torus Spray initiation.

QUESTION: 052 (1.00)

Which ONE of the following components of the condensate pump receives cooling from TBCCW?

A. Journal bearing oil cooler

B. Thrust bearing oil cooler

C. Shaft seal oil cooler

D. Motor seal oil cooler

QUESTION: 053 (1.00)

Unit 2 is operating at 100% power. An I & C Technician inadvertently bumps the 'A' condensate pump suction valve control switch causing the 'A' suction valve to go closed resulting in a trip of the 'A' condensate pump. Which ONE of the following describes the expected plant response to this event?

A. Feedwater pump ' ' increases in speed to makeup for the flow loss due to the tripped condensate pump.

B. Feedwater pump 'A' trips due to low net positive suction head (NPSH).

C. Recirculation system pumps run back to 60% in order to decrease feedwater requirements.

D. Recirculation flow control logic sets a 70% speed limit on recirculation pumps to limit power increase.

QUESTION: 054 (1.00)

Which ONE of the following statements describes the expected system response if the condensate pump discharge header pressure drops significantly below normal?

A. The condensate recirc control valve will open.

B. The condenser hotwell makeup valve will close.

C. SJAE condenser inlet valves will open

D. CRD pump suction Valve will close

QUESTION: 055 (1.00)

Assume busses are being fed from the Unit Auxiliary Transformer and are properly aligned for fast transfer. Which ONE of the following statements is a condition for a FAST TRANSFER of the unit aux busses to occur?

A. Both S/U feeder breaker control switches are in "pull to lock" positions.

B. Generator breakers (1, 2, 3, 4) open within approximately 20 cycles of lockout.

C. Loss of off-site power followed by a turbine trip with generator lockout.

D. Trip and lockout of both recirculation system Motor Generator (MG) sets

QUESTION: 056 (1.00)

The unit is operating at 100% power. Which ONE of the following conditions will cause a lockout of the main generator?

A. A turbine trip with output breakers OPEN

B. A ground fault on either #1 or #2 startup feed lines

C. Placing breaker A1 control to CLOSE with breakers 2SUA and 3SUI closed

D. Line fault on 500 KV connection to the North Substation

QUESTION: 057 (1.00)

Which ONE of the following combination of the alarms and indications numbered below characterizes the possibility of an uncoupled control rod?

1. "Red" full-out light on full core display.
2. Overtravel alarm.
3. "Red" full-out light on full core display and POSITION 48 indication.
4. Rod drift alarm
5. Blank rod position indication on full core display.

A. 1, 2, 3

B. 2, 4, 5

C. 1, 3, 5

D. 1, 2, 4

QUESTION: 058 (1.00)

Which ONE of the following is the expected result if the offgas recombiner(s) become water logged?

A. Main condenser vacuum increases.

B. Main turbine generator power output increases.

C. Reactor power increases.

D. Main Condenser vacuum decreases.

QUESTION: 059 (1.00)

Which ONE of the following statements describes the design intention of the Main Steam Line (MSL) flow restrictors?

A. Assists the Turbine Control Valves in preventing rapid Main Turbine load changes during transients.

B. Reduces the differential pressure at the outboard MSIVs to less than the design 200 psid allowed to open the valves.

C. Limits the total steam line flow to 200% of full power design in the event of a steam line rupture outside of the Secondary Containment.

D. Maintains a constant backpressure on the Reactor Vessel to allow for more accurate level indication during a Main Turbine load rejection.

QUESTION: 060 (1.00)

Which ONE of the following conditions will result in a loss of secondary containment integrity?

A. Trip of Drywell Purge fans

B. Failure of SGTS

C. Closure one door in each access opening

D. Trip of Reactor Building Ventilation System supply fans

QUESTION: 061 (1.00)

Which ONE of following statements describes the action expected to occur upon a reactor building isolation?

A. Standby Gas Treatment System will START

B. Reactor Building Ventilation Exhaust Damper will OPEN

C. Control Room Ventilation System will ISOLATE

D. Equipment Compartment Supply Filters will auto ADVANCE

QUESTION: 062 (1.00)

In accordance with SO 19.7.A2, LOSS OF FUEL POOL COOLING, which ONE of the following systems is required to be available to provide backup or additional cooling to the fuel pool if the loss of cooling is due to a loss of the Fuel Pool Cooling and Cleanup System?

A. Reactor Building Closed Cooling Water (RBCCW)

B. Residual Heat Removal (RHR)

C. Condensate and Refueling Water Storage

D. High Pressure Service Water

QUESTION: 063 (1.00)

Which ONE of the following statements describes a function of the bottom head drain?

A. To provide a return for CRD to prevent cold water accumulation.

B. To provide a continual flow of water to RWCU to prevent the accumulation of cold water.

C. To provide a supply of flushing water to the internal components of the CRDM.

D. To provide a return flow path to the reactor vessel from the RWCU system.

QUESTION: 064 (1.00)

Which ONE of the following is the expected behavior of the Traversing In-core Probe (TIP) system if a PCIS Group IId isolation signal is actuated?

A. TIP retracts fully into shield and then the ball valve automatically closes.

B. TIP retracts fully into shield and then the shear valve automatically fires.

C. TIP inserts fully into the core and then withdraws at fast speed into the shield and then the ball valve closes.

D. TIP remains at present position and then the shear valve automatically fires.

QUESTION: 065 (1.00)

Which ONE of the following statements describes the purpose of the scram signal from the Turbine Stop Valves closure?

A. Minimizes moisture carryover to turbine during transients

B. Protects the main condenser from overpressurization

C. Prevents rapid depressurization and cooldown

D. Anticipates neutron flux and power increase.

QUESTION: 066 (1.00)

Which ONE of the following design features(s) of the Reactor Protection System (RPS) assures that a scram goes to completion once initiated?

A. Mode switch to shutdown auto bypasses scram after 2 seconds

B. Scram reset logic is NOT enabled for 10 seconds following a full scram.

C. Only one RPS bus can be supplied from the alternate feed at any one time.

D. RPS initial flywheel maintains output for 5 second following a loss of drive motor power.

QUESTION: 067 (1.00)

On a design basis LOCA, certain reactor components ensure two thirds core coverage is maintained. Which ONE of the following is NOT one of these components?

A. Shroud support ring (baffle plate)

B. Jet pump diffuser and mixer

C. Core shroud

D. Core support plate

QUESTION: 068 (1.00)

Which ONE of the following statements describes a condition that will initiate a recirculation pump runback to 60% speed?

A. Individual feed flow LESS than 20% and reactor vessel level LESS than 17 inches

B. Individual feed flow GREATER than 20% and reactor vessel level GREATER than 45 inches.

C. Individual feed flow LESS than 20% and reactor vessel level GREATER than 45 inches

D. Individual feed flow GREATER than 20% and reactor vessel level LESS than 17 inches

QUESTION: 069 (1.00)

In accordance with OT-101, High Drywell Pressure-Procedure, which ONE of the following statements is an IMMEDIATE OPERATOR ACTION?

A. Regulate drywell temperature

B. Open drywell vent damper.

C. Maximize [illegible] cooling.

D. Bypass high drywell pressure isolation interlocks

QUESTION: 070 (1.00)

Unit 3 is operating at 85% power. A reactivity transient occurs which causes:

- No change to total core flow.
- Generator electrical output to decrease.
- No change to feedwater enthalpy.

Which ONE of the following events is the cause of the reactivity transient?

A. Inadvertent safety relief valve opening.

B. Feedwater pump trip

C. Reactor recirculation pump speed decrease

D. Feedwater heater trip.

QUESTION: 071 (1.00)

In accordance with T-101, RPV Control - Bases, which ONE of the following statements is a reason that ADS is inhibited whenever boron injection is required?

A. To prevent a loss of boron from the vessel resulting in a reactivity increase.

B. To prevent a possible power excursion that may result in substantial fuel damage.

C. To prevent an excessive depressurization that would cause the SLC pumps to runout.

D. To prevent an increase in natural circulation resulting in decreased voiding and an increase in power.

QUESTION: 072 (1.00)

During the performance of OT-101," High Drywell Pressure", the plant operator inadvertently trips two chillers while raising their demand limiter settings. Which ONE of the following describes the status of the automatic RBCCW swap-over to drywell cooling water loads?

A. The swap-over would not occur due to DWCW header pressure being normal.

B. The swap-over would not occur due to power being available to the load centers supplying the chillers.

C. The swap-over would occur due to loss of power to the chiller motors.

D. The swap-over would occur due to drop out of the chiller motor contacts.

QUESTION: 073 (1.00)

Which ONE of the following is the MINIMUM reactor HIGH Steam Dome pressure which would result in a violation of a PBAPS Safety Limit?

A. 1205 psig

B. 1250 psig

C. 1325 psig

D. 1375 psig

QUESTION: 074 (1.00)

A scram has occurred, the SDV is full and the scram pilot valve air header is 0 psig but there are 21 rods still out and the reactor power has stabilized at 12%. ALL blue scram lights are on. In accordance with T-101, "RPV Control" which ONE of the following methods should the operator use to insert the remaining control rods?

A. Individually scram control rods using T-213 (Scram Solenoid Deenergization) if necessary.

B. Isolate and vent the scram air header by resetting the ARI.

C. De-energize the scram solenoids by placing mode switch to SHUTDOWN.

D. Reset the scram, drain the SDV and insert rods by either a manual scram or scram test switches.

QUESTION: 075 (1.00)

What is the basis for rapid depressurization of the reactor vessel PRIOR to reaching the heat capacity temperature limit curve?

A. Minimize the discharge of reactor coolant from unisolated primary system breaks.

B. Depressurize the reactor while the containment still has the ability to absorb the energy in the reactor.

C. Reduce the pressure in the reactor so that low pressure ECCS are able to inject.

D. Minimize radioactive releases from the reactor pressure vessel into or outside the primary containment.

QUESTION: 076 (1.00)

While operating at 100% reactor power, Unit ? receives a valid scram signal, however the reactor protection system fails to initiate a scram. Which ONE of the following is the reason for implementing Alternate Rod Insertion (ARI) as stated in T-101, RPV CONTROL - BASES?

A. Provides a backup means of depressurizing the scram air header in the event that the backup scram valves fail to operate.

B. Maximizes the differential pressure across the drive piston of the individual CRD HCUs to effect a complete scram.

C. Provides an independent and redundant means of depressurizing the scram air header to effect a reactor scram.

D. Ensures that the scram discharge volume does not pressurize sufficiently before rods can be scrammed.

QUESTION: 077 (1.00)

TRIP Procedure T-101, RPV Control, requires that SBLC be injected during a failure to scram condition (power greater than 3% or unknown and all rods NOT inserted to or beyond 00) before the torus temperature reaches:

A. 100 degrees F.

B. 110 degrees F.

C. 120 degrees F.

D. 130 degrees F.

QUESTION: 078 (1.00)

An immediate operator action required by OT-112, Recirculation Pump Trip, is to insert the specified GP-9 control rods. Which ONE of the following statements is NOT a basis for inserting the control rods?

A. Inserting control rods minimizes the probability of power oscillations in various regions of the core and thermal hydraulic instabilities.

B. Inserting control rods will prevent operation in the high power/low flow region of the power/flow map.

C. Inserting control rods will further reduce reactor power and increase the margin to the APRM high scram setpoint.

D. Inserting control rods will reduce power and two phase flow restrictions resulting in better mixing in the bottom head region.

QUESTION: 079 (1.00)

In accordance with SE-11, Station Blackout Procedure, all 4 KV buses may be powered from any one diesel. Prior to the crosstie of the 4 KV buses, the control power fuses are removed from major pump breakers on buses other than the bus normally supplied by the running D/G. Which ONE of the following statements is the basis for this action?

A. Prevents damaging the pump.

B. Prevents overloading the Diesel Generator.

C. Prevents overloading the DC control power supply.

D. Disables the undervoltage breaker trip.

QUESTION: 080 (1.00)

Normal AC power is lost to the Unit 2 emergency 4 KV bus in which one of the loads is the "A" ESW pump (The pump associated with Alternate Shutdown Capabilities). Which ONE of the following Emergency Diesel Generators will auto start and re-energize the de-energized bus?

A. Emergency Diesel Generator E-1.

B. Emergency Diesel Generator E-2.

C. Emergency Diesel Generator E-3.

D. Emergency Diesel Generator E-4.

QUESTION: 081 (1.00)

Which ONE of the following states the reason for an instrumented automatic action at a reactor vessel water level of +45 inches?

A. Trips the HPCI turbine to prevent high vibration due to moisture induction

B. Prevents damage to SRVs from potential two phase flow

C. Trips the reactor feedpump turbine to prevent overfilling reactor vessel

D. Protects the MSIVs from water damage

QUESTION: 082 (1.00)

Which ONE of the following is the expected RCIC behavior if the reactor water level increases to + 56 inches during full flow testing of the system?

A. RCIC Isolation occurs with subsequent RCIC trip.

B. RCIC Isolation occurs with no RCIC pump trip.

C. RCIC pump trips and RCIC steam supply valve, MO-131 remains open.

D. RCIC steam supply valve, MO-131 closes and RCIC trip throttle valve remains open.

QUESTION: 083 (1.00)

While at 95% power on Unit 2, main condenser vacuum is decreasing. Efforts to stop the loss of vacuum have been unsuccessful. Which ONE of the following readings is the lowest vacuum at which it is possible to maintain RPV level with the Reactor Feed Pumps?

A. 23 inches Hg Vac

B. 20 inches Hg Vac

C. 10 inches Hg Vac

D. 7 inches Hg Vac

QUESTION: 084 (1.00)

Which ONE of the following statements is an entry condition into T-104, "Radioactivity Release"?

A. Off-gas stack high-high radiation alarm.

B. Ventilation stack high radiation alarm.

C. Unexplained secondary containment ARM alarm.

D. Refuel floor ventilation exhaust high radiation alarm.

QUESTION: 085 (1.00)

Which ONE of the following components will AUTOMATICALLY receive cooling from RBCCW in the event that both TBCCW pumps are tripped for longer than 40 seconds?

A. Isolated phase bus coolers

B. Joy compressors

C. Sample coolers

D. CRD pumps

QUESTION: 086 (1.00)

The control room has become uninhabitable due to conditions requiring entry into SE-1, Plant Shutdown from the Remote Shutdown Panel-Procedure. Which ONE of the following statements is an immediate operator action required by this procedure before leaving the control room?

A. MAXIMIZE drywell cooling

B. VERIFY auto transfer of house loads

C. ESTABLISH torus cooling

D. MANUALLY trip both recirculation pumps

QUESTION: 087 (1.00)

Which ONE of the following is a DIRECT entry condition into T-102, Primary Containment Control.

A. Drywell or torus oxygen concentration less than 4.0%

B. Inadvertently opened relief valve with high tailpipe temperature (275 degrees F)

C. Suppression pool temperature greater than 95 degrees F.

D. Drywell bulk average temperature above 135 degrees

QUESTION: 088 (1.00)

Which ONE of the following would NOT occur as an automatic response to a valid high drywell pressure signal (2 psig)?

A. TIP nitrogen purge valves isolation

B. Recirculation loop B sample line isolation

C. Torus water cleanup pump suction valves isolation

D. RHR inboard injection valve isolation

QUESTION: 089 (1.00)

Upon entry into ON-107, Loss of CRD Regulating Function - Procedure, you observe that ALL of the following conditions exist:

1. More than half of the control rods are withdrawn
2. CRD pump suction low pressure alarm has illuminated.
3. Reactor pressure is 550 psig.
4. Four (4) CRD accumulator trouble lights are illuminated.
5. CRD charging water header pressure is zero (0) psig.

As the reactor operator, which ONE of the following operator actions are you required to take per ON-107?

A. Bypass and isolate pump suction filter.

B. Place alternate CRD pump in service

C. Close FCV to increase charging water header pressure.

D. Manually scram the reactor.

QUESTION: 090 (1.00)

Unit 2 is operating at 500 psig reactor pressure when the operating CRD pump trips and can not be restarted. The standby CRD pump is started and after five minutes trips and can NOT be restarted. Which ONE of the following remains functional?

A. Ability to cool the control rod drive mechanisms.

B. Ability to provide reactor recirculation pump seal water flow.

C. Ability to withdraw control rods.

D. Ability to insert control rods.

QUESTION: 091 (1.00)

In accordance with OT-114, Inadvertent Opening of a Relief Value - Procedure, the reactor must be manually scrammed if the SRV remains open after the turbine inlet pressure reaches which ONE of the following MINIMUM pressures:

A. 950 psig

B. 900 psig

C. 850 psig

D. 800 psig

QUESTION: 092 (1.0)

Which ONE of the following conditions requires an entry into T-102, Primary Containment Control?

A. Drywell temperature of 95 F.

B. Suppression pool level below 14.6 feet.

C. Reactor water level below -172 inches or unknown

D. At least five SRVs opened

QUESTION: 093 (1.00)

Which ONE of the following automatic isolation of the RWCU system closes the MO-15 and MO-18 valves (Inboard and Outboard RWCU inlet valves respectively)?

A. Reactor low water level

B. Filter demin high inlet temperature

C. High temperature in heat exchanger room

D. High drywell pressure

QUESTION: 094 (1.00)

T-102, Primary Containment Control, step T/L-6 requires a manual reactor scram if the torus level drops below 12.5 feet and T-101 (RPV Control) has NOT been entered. Which ONE of the following is a prudent reason for initiating this scram per T-102?

A. Ensures that the torus temperature can be maintained low enough to preclude the need for RPV depressurization.

B. Minimizes the amount of energy containment must absorb in the event of an RPV blowdown or LOCA.

C. Ensures that the energy exhausted to the torus by the HPCI turbine will not pressurize the containment.

D. Minimizes the release of oxygen and hydrogen from the radiolytic decomposition of water during a blowdown.

QUESTION: 095 (1.00)

In accordance with ON-115, Loss of Normal Main Control Room Ventilation-Procedure, which ONE of the following statements describes the expected response due to a high radiation trip.

A. Toilet exhaust fan TRIPS

B. Dampers to high efficiency filters ISOLATE

C. Fresh air supply fans TRIP

D. Dampers to Control Room Purge ISOLATE

QUESTION: 096 (1.00)

Which ONE of the following parameters will cause the isolation of the oxygen analyzer?

A. Steam tunnel temperature of 225 degrees F.

B. Drywell pressure of 1.8 psig

C. Oxygen concentration of less than 2%

D. Reactor building exhaust rad levels of 18 mr/hr

QUESTION: 097 (1.00)

Unit 2 is operating with the "A" loop of RHR Shutdown Cooling" in service. Reactor water temperature is being maintained between 150 to 180 degrees F when a PCIS Group IIb signal is received. Which ONE of the following is a consequence of this event?

A. Closure of long path recirculation valves, MO-38A,B, with a subsequent decrease in reactor water temperature.

B. Closure of inboard and outboard shutdown cooling valves, MO-17 & MO-18 with a subsequent increase in reactor water temperature.

C. Closure of the operating RHR pump shutdown cooling suction valve, MO-15 and tripping of the associated pump with a subsequent increase in reactor water temperature.

D. Closure of inboard and outboard shutdown cooling valves, MO-17 & MO-18 with a subsequent decrease in reactor water temperature.

QUESTION: 098 (1.00)

In accordance with T-103, Secondary Containment Control - Bases, Which ONE of the following statements describes a purpose for entry into the procedure.

A. Isolation of Reactor Building Ventilation

B. Criticality incident on Refuel Floor

C. ON-114, Fire in Power Block, directed entry

D. Threat to important reactor safety equipment

QUESTION: 099 (1.00)

Which ONE of the following radiation monitors would be capable of detecting a high radiation condition during a refueling accident?

A. Refuel equipment storage ARM

B. Vessel head laydown ARM

C. Steam separator pool ARM

D. New Fuel Vault ARM

QUESTION: 100 (1.00)

Which ONE of the following statements is a function of the Standby Gas Treatment System (SGTS)?

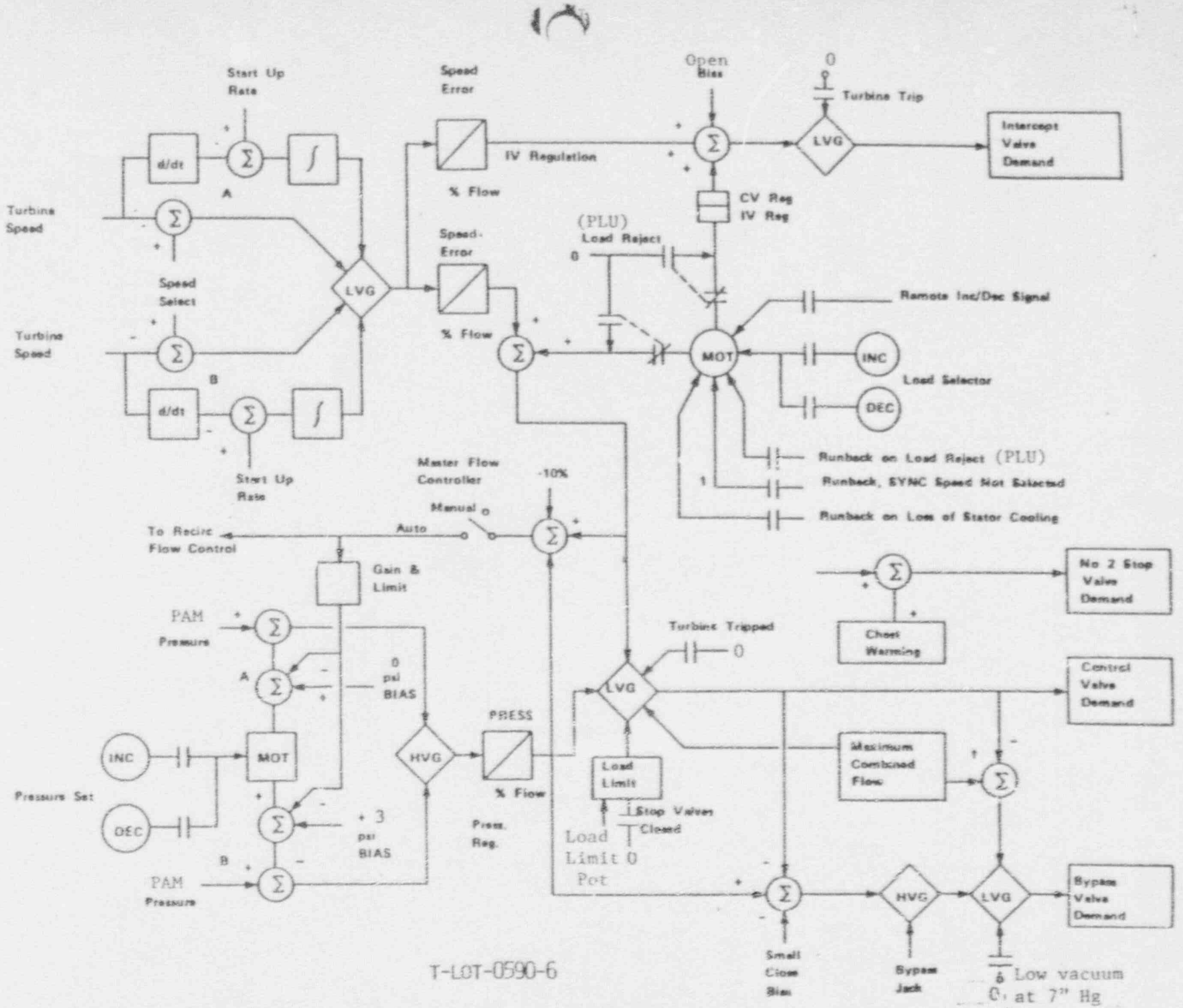
A. Provides a backup to Control Room Ventilation System for maintaining a negative 0.25" WG pressure.

B. Assists in purging the main condenser of radioactive gases during condenser maintenance operations

C. Serves as backup to Reactor Building Ventilation to maintain secondary containment at a negative 0.25" WG pressure.

D. Provides the standby capability of treating the control room atmosphere in the event the control room becomes uninhabitable.

(********** END OF EXAMINATION **********)


Start Up Rate
Speed Error
Open Bias
0
Turbine Trip
d/dt
A
IV Regulation
LVG
Intercept Valve Demand
% Flow
CV Reg IV Reg
Turbine Speed
(PLU) Load Reject
Speed Error
Speed Select
LVG
Remote Inc/Dec Signal
% Flow
MOT
INC
Load Selector
DEC
Turbine Speed
B
d/dt
Runback on Load Reject (PLU)
Runback, SYNC Speed Not Selected
Runback on Loss of Stator Cooling
Start Up Rate
Master Flow Controller
-10%
Manual
Auto
To Recirc Flow Control
Gain & Limit
No 2 Stop Valve Demand
Chest Warming
PAM Pressure
Turbine Tripped
0
A
0 psi BIAS
LVG
Control Valve Demand
PRESS
INC
MOT
HVG
Maximum Combined Flow
Pressure Set
DEC
+ 3 psi BIAS
% Flow
Load Limit
Stop Valves Closed
Press. Reg.
Load Limit 0 Pot
B
PAM Pressure
Small Close Bias
HVG
LVG
Bypass Valve Demand
Bypass Jack
Low vacuum at 7" Hg

T-LOT-0590-6

ANSWER: 001 (1.00)

C.

REFERENCE:

LOT-0005, Rev 3, obj 16, page 20
PBAPS OM-6, page 7
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, A1.09, 3.3/4.2
(p.2-2)

294001A109 ..(KA's)

ANSWER: 002 (1.00)

B.

REFERENCE:

PBAPS GET Handbook, Rev date 8/2/90, obj 40, chpt 3, pg 12 of 15
10CFR20
Hope Creek RO Exam, question #11, 9/24/90
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, K1.03, 3.3/3.8
(p.2-1)

294001K103 ..(KA's)

ANSWER: 003 (1.00)

C.

REFERENCE:

PBAPS LOT-0005, Rev 3, obj 21
PBAPS LOT-1570, Rev 7, obj 2k, pg 8
PBAPS A-41, pg 4 of 18
PBAPS OM-10.C.2, pg 6 of 13
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, K1.02, 3.9/4.5*
(p.2-1)

294001K102 ..(KA's)

ANSWER: 004 (1.00)

C.

REFERENCE:

PBAPS LOT-1570, obj 2j, pg 8
PBAPS AO-40, Section 7.3, page 4 of 12
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, A1.03, 2.7/3.7
(p.2-2)

294001A103 ..(KA's)

ANSWER: 005 (1.00)

D.

REFERENCE:

PBAPS LOT 1730, Rev 7, obj 1b, pg 5
10CFR20
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, K1.03, 3.3/3.8
(p.2-1)

294001K103 ..(KA's)

ANSWER: 006 (1.00)

A.

REFERENCE:

PBAPS A-1, pg 2 of 16
Hope Creek RO Exam, Quest. #57, 9/24/90
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, A1.11, 3.3/3.8
(p.2-1)

294001A111 ..(KA's)

ANSWER: 007 (1.00)

B.

REFERENCE:

PBAPS LOT-0005, Rev 3, obj 21, pg 25
PBAPS LOT-1570, Rev 7, obj 2v, pg 10
PBAPS OM-11, pg 2,3
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, A1.12, 3.4/4.2
(p.2-2)

294001A112 ..(KA's)

ANSWER: 008 (1.00)

B.

REFERENCE:

10 CFR 26
Hope Creek RO Exam, Quest. # 83, 9/24/90
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, A1.03, 2.7/3.7
(p.2-2)

294001A103 ..(KA's)

ANSWER: 009 (1.00)

C.

REFERENCE:

PBAPS LOT-0005, Rev 3, obj 23, pg
PBAPS OM-8, pg 19 of 32
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, A1.06, 3.4/3.6
(p.2-2)

294001A106 ..(KA's)

ANSWER: 010 (1.00)

D.

REFERENCE:

PBAPS Tech Spec 3.6.B bases
LOT-1025, Rev 2, obj 2, page 14
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, A1.14, 2.9/3.4
(p.2-2)

294001A.14 ..(KA's)

ANSWER: 011 (1.00)

B.

REFERENCE:

PBAPS LOT 0450, Rev 7, obj 7b, page 12
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, K1.08, 3.1/3.4
(p.2-1)

294001K108 ..(KA's)

ANSWER: 012 (1.00)

A.

REFERENCE:

PBAPS LOT-1770, Rev 6, obj 2, page 9
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, K1.04, 3.3/3.6
(p.2-1)

294001K104 ..(KA's)

ANSWER: 013 (1.00)

C.

REFERENCE:

LOT-1560, Rev 5, obj 2, page 4
PBAPS T-101
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, A1.02, 4.2/4.2
(p.2-2)

294001A102 ..(KA's)

ANSWER: 014 (1.00)

B.

REFERENCE:

PBAPS LOT-0040, Rev 4, Obj 4b, p.8.
NUREG-1123, NRC BWR K/A Catalog, K/A 202002, K1.02, 4.2/4.2(p.3.1-15)

202002A101 ..(KA's)

ANSWER: 015 (1.00)

A.

REFERENCE:

PBAPS LOT-0370, Rev 7, obj 5a, p.25
NUREG-1123, NRC BWR K/A Catalog, K/A 203000, A3.05, 4.4/4.4 (p.3.2-52)

20 \305 ..(KA's)

ANSWER: 016 (1.00)

B.

REFERENCE:

PBAPS LOT-0370, Rev 7, obj 5a, p.26
SO 10.7.A-3, Rev 3, p.1
NUREG-1123, NRC BWR K/A Catalog, K/A 203000, K1.17, 4.0/4.0 (p.3.2-49)

203000K117 ..(KA's)

ANSWER: 017 (1.00)

C.

REFERENCE:

PBAPS LOT 0370, Rev 7, obj 2c, pg 23
NUREG-1123, NRC BWR K/A Catalog, K/A 203000, K4.11, 4.0/4.0
(p.3.2-49)

203000K411 ..(KA's)

ANSWER: 018 (1.00)

C.

REFERENCE:

PBAPS LOT 0340, rev 7, obj 1d, pg 35
NUREG-1123, NRC BWR K/A Catalog, K/A 206000, A4.01, 3.6/3.5
(p.3.2-4)

206000A401 ..(KA's)

ANSWER: 019 (1.00)

A.

REFERENCE:

PBAPS LOT-0340, Rev. 007, obj 5e, pg. 27
NUREG-1123, NRC BWR K/A Catalog, K/A 206000, A1.08., 4.1/4.0
(p.3.2-3)

206000A108 ..(KA's)

ANSWER: 020 (1.00)

B.

REFERENCE:

PBAPS LOT-0350, Rev 8, obj 5h, pg 12
NUREG-1123, NRC BWR K/A Catalog, K/A 209000, A4.03., 3.7/3.6
(p.3.2-16)

209001A403 ..(KA's)

ANSWER: 021 (1.00)

C.

REFERENCE:

PBAPS LOT-1560, Rev 5, obj 6, pg 6
PBAPS T-101 Bases
PBAPS T-114 bases, p.1
PBAPS Intro to TRIP-Bases, Rev 1, pg 13
NUREG-1123, NRC BWR K/A Catalog, K/A 209001, G013, 3.7/3.7
(p.3.2-17)

209001G013 ..(KA's)

ANSWER: 022 (1.00)

B.

REFERENCE:

PBAPS LOT 0080, Rev 5, obj 3, p.13-14
NUREG-1123, NRC BWR K/A Catalog, K/A 201002, K405, 3.3/3.3
(p.3.1-12)

201002K405 ..(KA's)

ANSWER: 023 (1.00)

D.

REFERENCE:

PBAPS LOT 0310, Rev 7, obj 1a, p.9
NUREG-1123, NRC BWR K/A Catalog, K/A 211000, G0.04, 4.1/4.1
(p.3.1-34)

211000G004 ..(KA's)

ANSWER: 024 (1.00)

A.

REFERENCE:

PBAPS LOT 0310, Rev 7, obj 5h, p. 18
NUREG-1123, NRC BWR K/A Catalog, K/A 211000, K1.06, 3.7/3.7
(p.3.1-31)

211000K106 ..(KA's)

ANSWER: 025 (1.00)

B.

REFERENCE:

PBAPS LOT 0300, Rev 10, obj 6b, pg 11
NUREG-1123, NRC BWR K/A Catalog, K/A 212000, K5.02, 3.3/3.4
(p.3.7-19)

212000K502 ..(KA's)

ANSWER: 026 (1.00)

D.

REFERENCE:

PBAPS LOT 0250, Rev 7, obj 2e, p.7
NUREG-1123, NRC BWR K/A Catalog, K/A 215003, G0.07, 3.5/3.5
(p.3.7-10)

215003G007 ..(KA's)

ANSWER: 027 (1.00)

D.

REFERENCE:

PBAPS LOT 0240, Rev 7, obj 5b, p.12
NUREG-1123, NRC BWR K/A Catalog, K/A 215004, K4.02, 3.4/3.5
(p.3.7-39)

215004K402 ..(KA's)

ANSWER: 028 (1.00)

A.

REFERENCE:

PBAPS LOT-0270, Rev. 008, obj 2d, pg.13
NUREG-1123, NRC BWR K/A Catalog, K/A 215005, K6.03., 4.2/4.1
(p.3.2-4)

215005K603 ..(KA's)

ANSWER: 029 (1.00)

A.

REFERENCE:

PBAPS LOT 0050, Rev 6, obj 6, pg 20
NUREG-1123, NRC BWR K/A Catalog, K/A 216000, A3.01, 3.4./3.4
(p.3.7-14)

216000A301 ..(KA's)

ANSWER: 030 (1.00)

A.

REFERENCE:

PBAPS LOT-0380, Rev. 008, obj 2g, pg.16
PBAPS SO-13.1C ,Rev.1,RCIC SYSTEM AUTOMATIC INITIATION
RESPONSE,section 4.1
NUREG-1123, NRC BWR K/A Catalog, K/A 217000, A2.01., 3.8/3.7
(p.3.2-27)

217000A201 ..(KA's)

ANSWER: 031 (1.00)

C.

REFERENCE:

PBAPS LOT 0380, Rev 8, obj 5c, p19
NUREG-1123, NRC BWR K/A Catalog, K/A 217000, K4.04, 3.0/3.1
(p.3.2-26)

217000K404 ..(KA's)

ANSWER: 032 (1.00)

A.

REFERENCE:

PBAPS LOT 0330, Rev 6, obj.5b, p15
NUREG-1123, NRC BWR K/A Catalog, K/A 218000, A3.04, 3.7/3.8
(p.3.3-2)

218000A304 ..(KA's)

ANSWER: 033 (1.00)

C.

REFERENCE:

PBAPS LOT 0330, Rev 6, obj 5b, p18
NUREG-1123, NRC BWR K/A Catalog, K/A 218000, A4.04, 4.1/4.1
(p.3.3-3)

218000A404 ..(KA's)

ANSWER: 034 (1.00)

C.

REFERENCE:

PBAPS LOT 0330, Rev 6, obj 6e/f, p8
NUREG-1123, NRC BWR K/A Catalog, K/A 218000, K6.06, 3.4/3.6
(p.3.3-2)

218000K606 ..(KA's)

ANSWER: 035 (1.00)

D.

REFERENCE:

PBAPS LOT-0180, Rev. 005, obj 2d, pg.16.
NUREG-1123, NRC BWR K/A Catalog, K/A 223002, K3.12., 3.6/3.6
(p.3.5-8)

223002K312 ..(KA's)

ANSWER: 036 (1.00)

A.

REFERENCE:

PBAPS LOT-0590, Rev. 004, Obj 2, pgs 12-18
NUREG-1123, NRC BWR K/A Catalog, K/A 241000, K1 06, 3.8/3.9
(p.3.3-12)

241000K106 ..(KA's)

ANSWER: 037 (1.00)

D.

REFERENCE:

PBAPS LOT-0590, Rev 4, obj 7, pg 13
NUREG-1123, NRC BWR K/A Catalog, K/A 241000, A4.19, 3.5/3.4
(p.3.3-17)

241000A419 ..(KA's)

ANSWER: 038 (1.00)

B.

REFERENCE:

PBAPS LOT-0540, Rev 4, obj 4, pg 15
NUREG-1123, NRC BWR K/A Catalog, K/A 259001, A3.10, 3.4/3.4
(p.3.2-34)

259001A310 ..(KA's)

ANSWER: 039 (1.00)

A.

REFERENCE:

PBAPS LOT-0550, Rev 4, obj 16, pg 17
NUREG-1123, NRC BWR K/A Catalog, K/A 259002, K3.01, 3.8/3.8
(p.3.2-44)

259002K301 ..(KA's)

ANSWER: 040 (1.00)

A.

REFERENCE:

PBAPS LOT-0210, Rev 4, obj 5a, pg 10
NUREG-1123, NRC BWR K/A Catalog, K/A 261000, A3.02, 3.2/3.1
(p.3.9-33)

261000A302 ..(KA's)

ANSWER: 041 (1.00)

B.

REFERENCE:

PBAPS LOT-0670, Rev 4, obj 4, pg 38
PBAPS LOT-0680, Rev 7, obj 4a, pg 14
NUREG-1123, NRC BWR K/A Catalog, K/A 264000, K4.01, 3.5/3.7
(p.3.6-10)

264000K401 ..(KA's)

ANSWER: 042 (1.00)

C.

REFERENCE:

PBAPS LOT-0370, Rev. 007, obj 5b, pgs 24 & 31.
PBAPS SO-10.1.B-2.05,section 2.5, pg 1.
NUREG-1123, NRC BWR K/A Catalog, K/A 205000, K4.02, 3.7/3.8
(p.3.4-14)

205000K402 ..(KA's)

ANSWER: 043 (1.00)

D.

REFERENCE:

PBAPS LOT-0090, Rev. 006, obj 1, pg 6.
NUREG-1123, NRC BWR K/A Catalog, K/A 201006,G0.04,3.4/3.4
(p.3.7-38)

201006G004 ..(KA's)

ANSWER: 044 (1.00)

C.

REFERENCE:

PBAPS LOT-0090, Rev 6, obj 5a, pg.17
PBAPS LOT-0080, Rev 5, obj 4a, pg.13, 16
NUREG-1123, NRC BWR K/A Catalog, K/A 201006,A3.02., 3.5/3.4
(p.3.7-37)

201006K404 ..(KA's)

ANSWER: 045 (1.00)

A.

REFERENCE:

PBAPS LOT-0090, Rev 6, obj 6K, pg.18
NUREG-1123, NRC BWR K/A Catalog, K/A 201006,K5.12, 3.5/3.5
(p.3.7-36)

201006K512 ..(KA's)

ANSWER: 046 (1.00)

B.

REFERENCE:

PBAPS LOT-0030, Rev 4. obj 1g, pg.13
PBAPS ON-113 Bases
NUREG-1123, NRC BWR K/A Catalog, K/A 202001,K1.07, 3.1/3.2
(p.3.1-19)

202001K107 ..(KA's)

ANSWER: 047 (1.00)

A.

REFERENCE:

PBAPS LOT-0030, Rev 4, obj 6a, pg.48
PBAPS LOT-0010, pg.33
PBAPS ON-100
NUREG-1123, NRC BWR K/A Catalog, K/A 202001,K6.01, 3.5/3.7
(p.3.1-21)

202001K601 ..(KA's)

ANSWER: 048 (1.00)

B.

REFERENCE:

PBAPS LOT-0370, Rev. 008, obj 3a, pg.9
NUREG-1123, NRC BWR K/A Catalog, K/A 204000,K.3.01,3.2/3.6
(p.3.2-38)

204000K301 ..(KA's)

ANSWER: 049 (1.00)

D.

REFERENCE:

PBAPS LOT-0370, Rev 7, obj 1c, pgs. 13, 26, 27
PBAPS SO 10. D-3
PBAPS P&ID M361
NUREG-1123, NRC BWR K/A Catalog, K/A 219000,A1.02,3.5/3.5
(p.3.5-18)

219000A102 ..(KA's)

ANSWER: 050 (1.00)

B.

REFERENCE:

PBAPS LOT-0370, Rev 7, obj 5, pg. 22
NUREG-1123, NRC BWR K/A Catalog, K/A 226001,A4.07,3.5/3.5
(p.3.5-26)

226001A407 ..(KA's)

ANSWER: 051 (1.00)

C.

REFERENCE:

PBAPS LOT-0370, obj 9c, pg. 26
NUREG-1123, NRC BWR K/A Catalog, K/A 230000,K4.03,3.5/3.6
(p.3.5-29)

230000K403 ..(KA's)

ANSWER: 052 (1.00)

B. B

REFERENCE:

LOT-0520, Rev 3, obj 3, pgs 8 & 21
NUREG-1123, NRC BWR K/A Catalog, K/A 256000 K6.05, 2.9/2.9
(p.3.2-21)

256000K605 ..(KA's)

ANSWER: 053 (1.00)

C.

REFERENCE:

PBAPS LOT-520, Rev 3, obj 8, pg 19
NUREG-1123, NRC BWR K/A Catalog, K/A 256000 K3.04,3.6/3.7
(p.3.2-20)

256000K304 ..(KA's)

ANSWER: 054 (1.00)

D.

REFERENCE:

PBAPS LOT-0520, Rev 3, obj 6, page 18
NUREG-1123, NRC BWR K/A Catalog, K/A 256000 K4.02, 2.9/2.9
(p.3.2-20)

256000K402 ..(KA's)

ANSWER: 055 (1.00)

B.

REFERENCE:

PBAPS LOT-0640, Rev 5, obj 5, pg 26
NUREG-1123, NRC BWR K/A Catalog, K/A 262001 A3.02, 3.2/3.3
(p.3.6-3)

262001A302 ..(KA's)

ANSWER: 056 (1.00)

D.

REFERENCE:

PBAPS LOT-0640, Rev 5, pg 14

NUREG-1123, NRC BWR K/A Catalog, K/A 262001 K1.05, 3.0/3.2
(p.3.6-1)

262001K105 ..(KA's)

ANSWER: 057 (1.00)

B.

REFERENCE:

PBAPS LOT 0060, Rev 6, obj 3b, pg 17
NUREG-1123, NRC BWR K/A Catalog, K/A 201003 K4.02, 3.8/3.9
(p.3.1-7)

201003K402 ..(KA's)

ANSWER: 058 (1.00)

D.

REFERENCE:

PBAPS LOT-0510, Rev. 006, pg 8
NUREG-1123, NRC BWR K/A Catalog, K/A 271000, A1.01,3.3/3.2
(p.3.9-7)

271000A101 ..(KA's)

ANSWER: 059 (1.00)

C.

REFERENCE:

PBAPS LOT 0120, Rev 9, obj 2c, pg 14
NUREG-1123, NRC BWR K/A Catalog, K/A 239001, G0.07, 3.7/3.8
(p.3.9-7)

239001G007 ..(KA's)

ANSWER: 060 (1.00)

B.

REFERENCE:

PBAPS LOT 0190, Rev 6, obj 6a, pg 8
NUREG-1123, NRC BWR K/A Catalog, K/A 290001, K6.03, 3.8/4.0
(p.3.5-36)

290001K603 ..(KA's)

ANSWER: 061 (1.00)

A.

REFERENCE:

PBAPS LOT 0200, Rev 6, obj 4a, pg. 10
NUREG-1123, NRC BWR K/A Catalog, K/A 288000, K4.01, 3.7/3.9
(p.3.9-11)

288000K401 ..(KA's)

ANSWER: 062 (1.00)

B.

REFERENCE:

PBAPS LOT 0750, Rev 5, obj 5, pg. 11
SO 19.7.A-2, Ioss of Fuel Fool Cooling, pg. 1
NUREG-1123, NRC BWR K/A Catalog, K/A 233000, A2.07, 3.0/3.2
(p.3.9-28)

233000A207 ..(KA's)

ANSWER: 063 (1.00)

B.

REFERENCE:

PBAPS LOT 0010, Rev 5, obj 2-1, pg 10
NUREG-1123, NRC BWR K/A Catalog, K/A 290002, K1.14, 2.9/3.1
(p.3.5-13)

290002K114 ..(KA's)

ANSWER: 064 (1.00)

A.

REFERENCE:

PBAPS LOT-0290, Rev. 004, obj 3, p.4
NUREG-1123, NRC BWR K/A Catalog, K/A 215001.K.1.05.3.3/3.4
(p.3.7-43)

215001K105 ..(KA's)

ANSWER: 065 (1.00)

D.

REFERENCE:

PBAPS LOT 0300, Rev 10, obj 2h, pg 17
NUREG-1123, NRC BWR K/A Catalog, K/A 295005,K2.01, 3.8/3.9
(p. 4.2-15)

295005K201 ..(KA's)

ANSWER: 066 (1.00)

B.

REFERENCE:

PBAPS LOT 300, Rev 10, obj 5h, pg 29
NUREG-1123, NRC BWR K/A Catalog, K/A 295006,K2.01, 4.3/4.4
(p.4.2-19)

295006K201 ..(KA's)

ANSWER: 067 (1.00)

D.

REFERENCE:

PBAPS LOT 0010, Rev 5, obj 4a, pg 35
Hope Creek RO Exam, 9/24/90, question # 33
NUREG-1123, NRC BWR K/A Catalog, K/A 295009,A1.03, 3.0/3.1
(p.4.2-29)

295009A103 ..(KA's)

ANSWER: 068 (1.00)

A.

REFERENCE:

LOT-0550, Rev 4, obj 12, pg 13
NUREG-1123, NRC BWR K/A Catalog, K/A 295009, A1.01, 3.9/3.9
(p.4.2-29)

295009A101 ..(KA's)

ANSWER: 069 (1.00)

C.

REFERENCE:

LOT-1540, Rev 3, obj 2, page 3
OT-101, High Drywell Pressure, pg 1
NUREG-1123, NRC BWR K/A Catalog, K/A 295010, A1.01, 3.4/3.5
(p.4.2-31)

295010A101 ..(KA's)

ANSWER: 070 (1.00)

A.

REFERENCE:

LOT-1560, Rev 5, obj 6, page 6
PBAPS OT-114, Rev 4, Inadvertent Opening of a Relief Valve -
Procedure,
NUREG-1123, NRC BWR K/A Catalog, K/A 295014, A1.07, 4.0/4.1
(p.4.2-41)

295014A107 ..(KA's)

ANSWER: 071 (1.00)

B.

REFERENCE:

PBAPS LOT-1560, Rev 5, obj 3, page 6
PBAPS T-101 Bases, RC/Q-19, Inhibit ADS, Rev 10, pg 8
WPPSS-2 RO Exam, Question #24, 4/5/91
NUREG-1123, NRC BWR K/A Catalog, K/A 295014, A2.03, 4.0/4.1
(p.4.2-42)

295014A203 ..(KA's)

ANSWER: 072 (1.00)

B.

REFERENCE:

PBAPS LOT-0150, p.12,
NUREG-1123, NRC BWR K/A Catalog, K/A 295024,EA2.02,3.9/4.0
(p.4.1-2)

295024A202 ..(KA's)

ANSWER: 073 (1.00)

C.

REFERENCE:

PBAPS Tech Spec, Sec 1.2, Reactor Coolant System Integrity, pg 29
WPPSS-2 RO Exam, quest. #83, 4/5/91
NUREG-1123, NRC BWR K/A Catalog, K/A 295025, EK1.05, 4.4/4.7
(p.4.1-5)

295025K105 ..(KA's)

ANSWER: 074 (1.00)

D.

REFERENCE:

PBAPS LOT-0070, Rev 6, obj 4d & e, pg 23
PBAPS LOT-1560, Rev 5, obj 1, pg 6
PBAPS T-101, RPV Control
Hope Creek RO exam, question #77, 9/24/90
NUREG-1123, NRC BWR K/A Catalog, K/A 295015, G0.12, 3.7/4.4
(p.4.2-47)

295015G012 ..(KA's)

ANSWER: 075 (1.00)

B.

REFERENCE:

PBAPS LOT-1560, Rev 5, obj 3
PBAPS T-102, Rev 6, Primary Containment Control Bases, p5
NUREG-1123, NRC BWR K/A Catalog, K/A 295026 ,EK3.01, 3.8/4.1
(p.4.1-9)

295026K301 ..(KA's)

ANSWER: 076 (1.00)

C.

REFERENCE:

PBAPS LOT-1560, Rev 5, obj 6, pg 6
PBAPS T-101, Rev 10,RC/Q-5, p.3
NUREG-1123, NRC BWR K/A Catalog, K/A 295037,EK3.08,3.6/3.9
(p.4.1-41)

295037K308 .(KA's)

ANSWER: 077 (1.00)

B.

REFERENCE:

PBAPS LOT-1560, Rev 5, obj 9, pg 5
PBAPS LOT-0310, Rev 7, obj 6i, pg 18
PBAPS T-101 Bases
NUREG-1123, NRC BWR K/A Catalog, K/A 295037,EK2.04, 4.4/4.5
(p.4.1-37)

295037K204 ..(KA's)

ANSWER: 078 (1.00)

D.

REFERENCE:

PBAPS LOT 0030, Rev 4, obj 8b, pg 46
PBAPS LOT 1540, Rev 3, obj 2, pgs 3 & 4
PBAPS OT-112 Bases, pg 2
NUREG-1123, NRC BWR K/A Catalog, K/A 295001, G0.07, 3.3/3.6
(p.4.2-2)

295001G007 ..(KA's)

ANSWER: 079 (1.00)

a.

REFERENCE:

PBAPS LOT 1555, Rev 2. obj 12b, pgs 11 & 12
PBAPS SE-11, Station Blackout - Bases
NUREG-1123, NRC BWR K/A Catalog, K/A 295003, K3.10, 3.3/3.5
(p.4.2-9)

295003K301 ..(KA's)

ANSWER: 080 (1.00)

B.

REFERENCE:

PBAPS LOT-0660, Rev. 008, p7.
NUREG-1123, NRC BWR K/A Catalog, K/A 295003,EK2.02,4.1/4.2
(p.4.2-9)

295003K202 ..(KA's)

ANSWER: 081 (1.00)

C.

REFERENCE:

PBAPS LOT-0550, Rev 4, obj 15,pgs 9, 14
Hope Creek RO exam, quest. #99, 9/24/90
NUREG-1123, NRC BWR K/A Catalog, K/A 295008,EK3.04, 3.3/3.5
(p.4.2-25)

295008K304 ..(KA's)

ANSWER: 082 (1.00)

D.

REFERENCE:

PBAPS LOT-0380, Rev 8, p.20.
NUREG-1123, NRC BWR K/A Catalog, K/A 295008, AA1.05., 3.3/3.3
(p.4.2-26)

295008A105 ..(KA's)

ANSWER: 083 (1.00)

B.

REFERENCE:

PBAPS LOT 0540, Rev 4, obj 4, pg 15
WNP2 RO exam, question #78, 4/5/91
NUREG-1123, NRC BWR K/A Catalog, K/A 295002, K2.05, 2.7/2.7
(p.4.2-5)

295002K205 ..(KA's)

ANSWER: 084 (1.00)

A.

REFERENCE:

PBAPS LOT 1560, Rev 5, obj 6, pg 6
PBAPS T-103/T-104
PBAPS LOT 1560, obj. 2
NUREG-1123, NRC BWR K/A Catalog, K/A 295017, G0.05, 3.8/3.8
(p.4.2-52)

295017G005 ..(KA's)

ANSWER: 085 (1.00)

D.

REFERENCE:

PBAPS LOT 0430, Rev 5, obj 3, pgs 5 and 6
NUREG-1123, NRC BWR K/A Catalog, K/A 295018, K2.01, 3.3/3.4
(p.4.2-55)

295018K201 ..(KA's)

ANSWER: 086 (1.00)

C.

REFERENCE:

PBAPS SE-1, pg 1
PBAPS LOT 1555, Rev 2, objs 2a & 17, pg 10
NUREG-1123, NRC BWR K/A Catalog, K/A 295016, A2.04, 3.9/4.1
(p.4.2-49)

295016A204 ..(KA's)

ANSWER: 087 (1.00)

C.

REFERENCE:

PBAPS LOT-1560, Rev 5, obj 6, pg 6
PBAPS T-1C2, Bases, pg 1, Primary Containment Control
NUREG-1123, NRC BWR K/A Catalog, K/A 295013, G0.12, 3.6/4.2
(p.4.2-40)

295013G012 ..(KA's)

ANSWER: 088 (1.00)

B.

REFERENCE:

PBAPS LOT 0180, Rev 5, Sec E.2, pg 8
Hope Creek RO Exam, question 42, 9/24/90
NUREG-1123, NRC BWR K/A Catalog, K/A 295020, K2.03, 3.1/3.3
(p.4.2-63)

295020K203 ..(KA's)

ANSWER: 089 (1.00)

D.

REFERENCE:

PBAPS ON-107, pg 1
NUREG-1123, NRC BWR K/A Catalog, K/A 295022, K3.01, 3.7/3.9
(p.4.2-69)

295022K301 ..(KA's)

ANSWER: 090 (1.00)

D.

REFERENCE:

PBAPS LOT-0070, Rev. 006,.CRD Hydraulic System
PBAPS ON-107,Rev.2, Loss of CRD Regulating Function - Procedure.
NUREG-1123, NRC BWR K/A Catalog, K/A 295022, K1.01,3.3/3.4
(p.4.2-69)

295022K101 ..(KA's)

ANSWER: 091 (1.00)

B.

REFERENCE:

PBAPS OT-114
NUREG-1123, NRC BWR K/A Catalog, K/A 295026, G0.10, 4.0/3.8
(p.4.1-10)

295026G010 ..(KA's)

ANSWER: 092 (1.00)

B.

REFERENCE:

PBABS LOT-1560, Rev 5, obj 6, pg 6
PBABS T-102, Rev 5, Primary Containment Control
NUREG-1123, NRC BWR K/A Catalog, K/A 295030, G011, 4.3/4.5
(p.4.1-19)

295030G011 ..(KA's)

ANSWER: 093 (1.00)

A.

REFERENCE:

PBAPS LOT 0180, Rev 5, Section E.2, pg 9
NUREG-1123, NRC BWR K/A Catalog, K/A 295020, K2.04, 3.1/3.1
(p.4.2-63)

295020K204 ..(KA's)

ANSWER: 094 (1.00)

B.

REFERENCE:

PBAPS LOT-1560, Rev 5, obj 6, pg 6
PBAPS T-102 Bases, pg 6
NUREG-1123, NRC BWR K/A Catalog, K/A 295030, K3.06, 3.6/3.8
(p.4.1-17)

295030K306 ..(KA's)

ANSWER: 095 (1.00)

C.

REFERENCE:

PBAPS LOT 0450
PBAPS ON-115
NUREG-1123, NRC BWR K/A Catalog, K/A 295033, A1.08, 3.6/3.8
(p.4.1-29)

295033A108 ..(KA's)

ANSWER: 096 (1.00)

D.

REFERENCE:

PBAPS LOT 0180, Rev 5, pg 12
NUREG-1123, NRC BWR K/A Catalog, K/A 295038, K3.02, 3.9/4.2
(p.4.1-41)

295038K302 ..(KA's)

ANSWER: 097 (1.00)

B.

REFERENCE:

PBAPS LOT-0180, Rev. 005, PCIS SYSTEM
PBAPS LOT-0-370, Rev.7, RHR SYSTEM, p.23.
NUREG-1123, NRC BWR K/A Catalog, K/A 295021,AK1.01,3.6/3.8
(p.4.2-67)

295021K101 ..(KA's)

ANSWER: 098 (1.00)

D.

REFERENCE:

PBAPS LOT 1560, Rev 5, obj 3, pg 6
NUREG-1123, NRC BWR K/A Catalog, K/A 295032, K2.08, 3.8/3.9
(p.4.1-25)

295032K201 ..(KA's)

ANSWER: 099 (1.00)

C.

REFERENCE:

PBAPS LOT-0760, Rev 6, obj 11, pg 55
NUREG-1123, NRC BWR K/A Catalog, K/A 295023, K2.03, 3.4/3.6
(p.4.2-71)

295023K203 ..(KA's)

ANSWER: 100 (1.00)

C.

REFERENCE:

PBAPS LOT 0210, pg 7
NUREG-1123, NRC BWR K/A Catalog K/A 295035, K2.02, 3.6/3.8
(p.4.1-33)
295035K202 ..(KA's)

(********** END OF EXAMINATION **********)

Attachment 2

MASTER

SRO

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Operator Licensing
Examination

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U. S. NUCLEAR REGULATORY COMMISSION
SITE SPECIFIC EXAMINATION
SENIOR OPERATOR LICENSE
REGION 1

CANDIDATE'S NAME: _____

FACILITY: Peach Bottom 2 & 3

REACTOR TYPE: BWR-GE4

DATE ADMINISTERED: 91/08/26

INSTRUCTIONS TO CANDIDATE:

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. Points for each question are indicated in parentheses after the question. The passing grade requires a final grade of at least 80%. Examination papers will be picked up four (4) hours after the examination starts.

TEST VALUE	CANDIDATE'S SCORE	%
100.00	_____	___ % TOTALS
	FINAL GRADE	

All work done on this examination is my own. I have neither given nor received aid.

_____
Candidate's Signature

A N S W E R S H E E T

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

MULTIPLE CHOICE

001	a	b	c	d	___
002	a	b	c	d	___
003	a	b	c	d	___
004	a	b	c	d	___
005	a	b	c	d	___
006	a	b	c	d	___
007	a	b	c	d	___
008	a	b	c	d	___
009	a	b	c	d	___
010	a	b	c	d	___
011	a	b	c	d	___
012	a	b	c	d	___
013	a	b	c	d	___
014	a	b	c	d	___
015	a	b	c	d	___
016	a	b	c	d	___
017	a	b	c	d	___
018	a	b	c	d	___
019	a	b	c	d	___
020	a	b	c	d	___
021	a	b	c	d	___
022	a	b	c	d	___
023	a	b	c	d	___
024	a	b	c	d	___
025	a	b	c	d	___
026	a	b	c	d	___
027	a	b	c	d	___
028	a	b	c	d	___
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031	a	b	c	d	___
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033	a	b	c	d	___
034	a	b	c	d	___
035	a	b	c	d	___
036	a	b	c	d	___
037	a	b	c	d	___
038	a	b	c	d	___
039	a	b	c	d	___
040	a	b	c	d	___
041	a	b	c	d	___
042	a	b	c	d	___
043	a	b	c	d	___
044	a	b	c	d	___
045	a	b	c	d	___

A N S W E R S H E E T

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

046	a	b	c	d	___	069	a	b	c	d	___
047	a	b	c	d	___	070	a	b	c	d	___
048	a	b	c	d	___	071	a	b	c	d	___
049	a	b	c	d	___	072	a	b	c	d	___
050	a	b	c	d	___	073	a	b	c	d	___
051	a	b	c	d	___	074	a	b	c	d	___
052	a	b	c	d	___	075	a	b	c	d	___
053	a	b	c	d	___	076	a	b	c	d	___
054	a	b	c	d	___	077	MATCHING				
055	a	b	c	d	___		1	___			
056	a	b	c	d	___		2	___			
057	a	b	c	d	___		3	___			
058	a	b	c	d	___		4	___			
059	a	b	c	d	___		MULTIPLE CHOICE				
060	a	b	c	d	___	078	a	b	c	d	___
061	a	b	c	d	___	079	a	b	c	d	___
062	a	b	c	d	___	080	a	b	c	d	___
063	a	b	c	d	___	081	a	b	c	d	___
064	a	b	c	d	___	082	a	b	c	d	___
065	a	b	c	d	___	083	a	b	c	d	___
066	a	b	c	d	___	084	a	b	c	d	___
067	a	b	c	d	___	085	a	b	c	d	___
068	a	b	c	d	___	086	a	b	c	d	___

A N S W E R S H E E T

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

087	a	b	c	d	____
088	a	b	c	d	____
089	a	b	c	d	____
090	a	b	c	d	____
091	a	b	c	d	____
092	a	b	c	d	____
093	a	b	c	d	____
094	a	b	c	d	____
095	a	b	c	d	____
096	a	b	c	d	____
097	a	b	c	d	____
098	a	b	c	d	____
099	a	b	c	d	____

(********** END OF EXAMINATION **********)

NRC RULES AND GUIDELINES FOR LICENSE EXAMINATIONS

During the administration of this examination the following rules apply:

1. Cheating on the examination means an automatic denial of your application and could result in more severe penalties.

2. After the examination has been completed, you must sign the statement on the cover sheet indicating that the work is your own and you have not received or given assistance in completing the examination. This must be done after you complete the examination.

3. Restroom trips are to be limited and only one applicant at a time may leave. You must avoid all contacts with anyone outside the examination room to avoid even the appearance or possibility of cheating.

4. Use black ink or dark pencil ONLY to facilitate legible reproductions.

5. Print your name in the blank provided in the upper right-hand corner of the examination cover sheet and each answer sheet.

6. Mark your answers on the answer sheet provided. USE ONLY THE PAPER PROVIDED AND DO NOT WRITE ON THE BACK SIDE OF THE PAGE.

7. Before you turn in your examination, consecutively number each answer sheet, including any additional pages inserted when writing your answers on the examination question page.

8. Use abbreviations only if they are commonly used in facility literature. Avoid using symbols such as < or > signs to avoid a simple transposition error resulting in an incorrect answer. Write it out.

9. The point value for each question is indicated in parentheses after the question.

10. Show all calculations, methods, or assumptions used to obtain an answer to any short answer questions.

11. Partial credit may be given except on multiple choice questions. Therefore, ANSWER ALL PARTS OF THE QUESTION AND DO NOT LEAVE ANY ANSWER BLANK.

12. Proportional grading will be applied. Any additional wrong information that is provided may count against you. For example, if a question is worth one point and asks for four responses, each of which is worth 0.25 points, and you give five responses, each of your responses will be worth 0.20 points. If one of your five responses is incorrect, 0.20 will be deducted and your total credit for that question will be 0.80 instead of 1.00 even though you got the four correct answers.

13. If the intent of a question is unclear, ask questions of the examiner only.

14. When turning in your examination, assemble the completed examination with examination questions, examination aids and answer sheets. In addition, turn in all scrap paper.

15. Ensure all information you wish to have evaluated as part of your answer is on your answer sheet. Scrap paper will be disposed of immediately following the examination.

16. To pass the examination, you must achieve a grade of 80% or greater.

17. There is a time limit of four (4) hours for completion of the examination.

18. When you are done and have turned in your examination, leave the examination area (EXAMINER WILL DEFINE THE AREA). If you are found in this area while the examination is still in progress, your license may be denied or revoked.

QUESTION: 001 (1.00)

The plant is operating at 100% power with the Feedwater Control System in three element control. Level is stable and feed flow is matched with steam flow. Assume the "A" Steam Flow Detector fails low. Select the ONE statement that describes how the plant will respond. Assume no operator action.

A. Level stabilizes at a lower than normal level.

B. Level stabilizes at a higher than normal level.

C. Reactor scrams due to low level.

D. Reactor scrams due to high level turbine trip.

QUESTION: 002 (1.00)

Which ONE of the following is a blocking tag that would allow the permit holder to test or operate selected components of the tagged equipment?

A. Equipment Trouble Tag

B. Red Danger Tag

C. Special Condition Tag

D. Information Tag

QUESTION: 003 (1.00)

What controlled area is defined as any accessible area in which a major portion of the whole body would receive greater than or equal 100 mRem/hr.

A. Locked Radiation Area

B. Radiation Area

C. Locked High Radiation Area

D. High Radiation Area

QUESTION: 004 (1.00)

The parameters for automatic initiation of the Automatic Depressurization System (ADS) are present and the blowdown timer is timing out. Which ONE of the following actions will NOT reset the blowdown timer.

A. Drywell pressure drops below 2 psig.

B. Interruption of power to the ADS logic channels.

C. Reactor level is restored above -48 inches.

D. Operation of the ADS timer reset pushbutton.

QUESTION: 005 (1.00)

Select the ONE statement below that describes the sequence of events that occur upon an initiation of the Standby Liquid Control (SBLC) system.

A. Both squib valves fire when one SBLC pump is started manually, aligning the flow path from the SBLC tank to the Reactor lower head.

B. When one SBLC pump is started manually, the associated squib valve fires to allow SBLC solution to be injected through the RWCU system.

C. Both SBLC pumps start automatically, taking suction on the SBLC tank and discharging the solution into the lower core area.

D. Starting the A SBLC pump activates a timer that disables a B pump start for 5 seconds to prevent a pump trip due to high starting current on bus.

QUESTION: 006 (1.00)

Which ONE of the following statements describes the function of the Rod Out Notch Override Switch for the Reactor Manual Control System (RMCS).

A. Overrides the settle function when continuously withdrawing a control rod.

B. Allows for continuous withdrawal when in the Notch Override Position.

C. Forces the operator to use two hands to withdraw a control rod one notch.

D. Bypasses all RWM blocks and interlocks when withdrawing a control rod.

QUESTION: 007 (1.00)

A reactor scram has occurred on Unit 2, but the power is still indicating greater than 3% on the APRM's. Trip Procedure T-101 requires that SBLC be injected prior to a certain torus temperature if the reactor is not shutdown with control rod insertion. Which ONE of the following statements describes the basis for the selected torus temperature.

A. Allows sufficient time for the operator to be able to drive the rods into notch 00.

B. Prevents the injection of borated water into the reactor before it is absolutely necessary.

C. It corresponds to the Tech Spec value of torus temperature which requires a scram.

D. Ensures that the net positive suction head (NPSH) of the RHR and Core Spray Pumps is maintained in the torus.

QUESTION: 008 (1.00)

Which ONE of the following statements describes the responding indications for power and drive flow upon a jet pump failure?

A. Reactor power decreases and recirc drive flow increases.

B. Reactor power increases and recirc drive flow increases.

C. Reactor power increases and recirc drive flow decreases.

D. Reactor power decreases and recirc drive flow decreases.

QUESTION: 009 (1.00)

During operation at 100% power an Auxiliary Operator conducting periodic checks on plant safety related equipment discovers an RHR system manual valve to be out of its normal position.

Which ONE of the following describes the action to be taken in accordance with OM-11, "Verification"?

A. Immediately reposition the valve and notify security for acts of possible sabotage.

B. Notify the Unit Reactor Operator or Chief Operator and obtain permission prior to repositioning the valve.

C. Reposition the valve to its correct position and notify the Unit Reactor Operator.

D. Verify the valve is misaligned through independent verification and record on log sheet for turnover.

QUESTION: 010 (1.00)

Which ONE of the following statements is an entry condition into T-104, "Radioactivity Release"?

A. Off-gas stack high-high radiation alarm.

B. Ventilation stack high radiation alarm.

C. Unexplained secondary containment ARM alarm.

D. Refuel floor ventilation exhaust high radiation alarm.

QUESTION: 011 (1.00)

A corporate tour group is currently visiting Peach Bottom. One of the group members is a 36 year old ex-radiation worker who has completed an NRC-4 form with a total exposure of 88 REM. This individual has also completed the General Employee Training, (Cat I/Cat II) and as such his exposure is not limited due to his "visitor" status. Which ONE of the following is the whole body administrative quarterly dose limit for this individual (NO exceptions)?

A. 100 mRem/qtr

B. 1000 mRem/qtr

C. 2000 mRem/qtr

D. 2500 mRem/qtr

QUESTION: 012 (1.00)

In accordance with A-1, "Administrative Procedure Preparation", the statement "Denotes a recommendation to be adhered to unless conditions warrant deviation" is the definition of which ONE of the following?

A. Should

B. Shall

C. May

D. Will

QUESTION: 013 (1.00)

In accordance with 10CFR26 "Fitness for Duty Program," which ONE of the following is the MINIMUM period to abstain from alcohol preceding any normal scheduled shift?

A. 3 hours

B. 5 hours

C. 8 hours

D. 12 hours

QUESTION: 014 (1.00)

In accordance with OM-8,"Logs and Rounds", which ONE of the following statements applies to a Surveillance Log?

A. Completed by Floor Operators at least weekly.

B. Identifies specific evolutions that must be performed.

C. Contains recorded data that satisfies Tech Spec requirements.

D. Chronologically describes the evolutions and status of the plant.

QUESTION: 015 (1.00)

In accordance with ON-115, "Loss of Normal Main Control Room Ventilation-Procedure", which ONE of the following statements describes a requirement for a rapid shutdown of both units?

A. Control Room ventilation is loss due to high radiation

B. Control Room temperature is greater than 100 degrees F.

C. Control Room outside air filter train fails to start.

D. Control Room CAM Beta count rate increases to 100 cpm.

QUESTION: 016 (1.00)

Unit 3 was operating at 100% power when a scram signal was received. While performing scram actions, it was noted that RPV level cannot be determined and that one rod failed to fully insert. Based on the given information, which ONE of the following procedures has priority in being performed?

A. ON - 106, Stuck Control Rod

B. SO - 6, Feed Water System

C. T - 101, RPV Control

D. T - 100 Scram

QUESTION: 017 (1.00)

Which ONE of the following speed combinations in the table below reflects the response of the reactor recirculation system to a 4% step change in the "A" Recirculation M/A output if the associated deviation meter changes from a 'null' indication to 'negative' indication?

Note: Assume the reactor recirculation system is operating in individual manual control during the event.

	RECIRC PUMP "A" SPEED	RECIRC PUMP "B" SPEED
A.	increases	decreases
B.	increases	remains unchanged
C.	decreases	increases
D.	decreases	remains unchanged

QUESTION: 018 (1.00)

The LPCI mode of RHR is manually initiated from the control room in accordance with SO 10.7.A-3, rev 3. Which ONE of the following is a permissive for the opening of LPCI injection valve MO-25?

A. Emergency generator running and loaded

B. Reactor pressure less than 450 psig

C. Minimum flow valve MO-16 closed

D. Low-Low Reactor water level (-48 inches)

QUESTION: 019 (1.00)

Which ONE of the following statements is correct regarding the LPCI Lockout reset pushbutton (S1A).

A. If during a LOCA the containment spray valves were not opened, pushing this button restores normal operation.

B. Pushing this button will cause MO-25 (LPCI injection valve) to automatically close after the LOCA signal is cleared.

C. Pushing this button allows MO-53, the recirc pump discharge valve, to be reopened when the LOCA signal clears.

D. Pushing this button will allow LPCI flow to be diverted to torus cooling following a LPCI injection.

QUESTION: 020 (1.00)

SO 23.2.A-2 "HPCI System Shutdown and Return to Standby from Operation" contains a precaution which states "DO NOT throttle the HPCI turbine below 2200 rpm". Which ONE of the following statements describes the basis for this precaution?

A. The HPCI steam flow required to maintain the lower rpm could lead high temperature HPCI isolation.

B. Since the flow controller signal to the MGU has no effect below the Low Speed Stop, HPCI turbine speed cannot be controlled during a HPCI system shutdown below 2200 rpm.

C. At low speeds intermittent exhaust flow and water hammer in the exhaust line could damage the exhaust check values.

D. At low speeds and hence low flows, the minimum flow valve cycles excessively which causes water hammer in the minimum flow line which has been known to cause cracking at the weld point to the torus.

QUESTION: 021 (1.00)

HPCI full flow functional testing is in progress at 95% power. Which ONE of the following statements describes the final status of the following HPCI valves upon receiving a valid initiation signal?

(1) MO-21, HPCI Test Return valve
(2) MO-17, HPCI CST suction valve
(3) MO-57 & MO-58, HPCI torus suction valves

A. (1) MO-21 close.
(2) MO-17 open.
(3) MO-57 & MO-58 close.

B. (1) MO-21 open.
(2) MO-17 open.
(3) MO-57 & MO-58 close.

C. (1) MO-21 open.
(2) MO-17 close.
(3) MO-57 & MO-58 open.

D. (1) MO-21 close.
(2) MO-17 close.
(3) MO-57 & MO-58 open.

QUESTION: 022 (1.00)

Unit 2 is operating at 87% power. The Core Spray System is lined up for automatic operation; MO-12 (Inboard Injection Valve) is shut. Which ONE of the following statements is correct regarding the opening of MO-12?

A. The valve cannot be manually opened from the control room, regardless of MO-11 (Outboard Injection Valve) position, unless a CS initiation signal is in.

B. The valve can be manually opened from the Control Room once MO-11 is shut.

C. The valve will open automatically once reactor water level reaches -160 inches.

D. The valve can be opened anytime a CS pump is running, provided MO-11 is opened first.

QUESTION: 023 (1.00)

Which ONE of the following is the pressure boundary for the IRM detector assembly?

A. Shuttle tube

B. Drive tube

C. Guide tube

D. Dry tube

QUESTION: 024 (1.00)

Which ONE of the following statements describes the effect of the shorting links that are used in the reactor protection system (RPS)?

A. Installation of the shorting links activates the SRM Scrams and bypasses the IRM and APRM scrams.

B. Removal of the shorting links activates the SRM scrams in a coincidence of one-out-of-two-taken twice logic scheme.

C. Installation of the shorting links activates the SRM, IRM and APRM scrams in one-out-of-two-taken twice logic schemes.

D. Removal of the shorting links enables a scram to occur if any single SRM, IRM or APRM channel trips.

QUESTION: 025 (1.00)

Which ONE of the following conditions will result in Average Power Range Monitor A becoming inoperative while operating at 100% power?

A. Less than 15 LPRM detectors operable for APRM channel A.

B. APRM Flow Unit Comparator mismatch signal fails to 5%.

C. Two LPRM detectors assigned to APRM channel A are bypassed.

D. Rod Block Monitor A fails upscale.

QUESTION: 026 (1.00)

Following a small break LOCA, drywell temperature increases while the reactor remains pressurized. Which ONE of the following statements describes the expected effect this will have upon narrow range indications?

A. Indicated level will read HIGHER than actual level due to reference leg density decrease.

B. Indicated level will read LESS than actual level due to reference leg density increase.

C. Indicated level will EQUAL actual level due to pressure compensation for temperature variations.

D. Indicated level will become ERRATIC due to actual level fluctuations caused by the small break pressure transient.

QUESTION: 027 (1.00)

The Plant is operating at 50% reactor power with the RCIC system in standby readiness condition. A valid low reactor water level initiation signal occurs due to a loss of feedwater event.

In accordance with SO-13.1.C-2, RCIC SYSTEM AUTOMATIC INITIATION RESPONSE, which ONE of the following responses in the table below describes the expected behavior of the following RCIC components?

(1) RCIC Cooling Water Valve (CWV)
(2) RCIC Drain Isolation to Main Condenser (DIMC)
(3) RCIC Vacuum pump (VP)
(4) RCIC minimum flow valve, MO-2-13-027 (MFV)

	CWV	DIMC	VP	MFV
A.	opens	closes	auto starts	opens initially and then closes
B.	opens	closes	auto stops	closes initially and then opens
C.	closes	opens	auto stops	opens initially and then closes
D.	closes	closes	auto starts	closes initially and then opens

QUESTION: 028 (1.00)

Which ONE of the following actions or conditions will reclose the ADS valves once an initiating signal is sealed in?

A. Placing the ADS valve switches to the "close" position on the CO3 panel.

B. Allowing the reactor to depressurize to the shutoff head of RHR and core spray.

C. Placing the keylock switcnes A and B in the "inhibit" position.

D. Allowing the A and B timer reset to energize the logic relays for electrical continuity.

QUESTION: 029 (1.00)

The reactor is operating at 100% power with the Electro-Hydraulic Control (EHC) load set at 100%, the maximum combined flow set at 110%, and the load limit set to 105%. Using the attached EHC diagrams, which ONE of the following indicates the new position of the control and bypass valves if the load limit potentiometer is reduced to 96%?

A. Control valve position --> 96% steam flow
Bypass valve position --> 4% steam flow

B. Control valve position --> 100% steam flow
Bypass valve position --> 14% steam flow

C. Control valve position --> 96% steam flow
Bypass valve position --> 0% steam flow

D. Control valve position --> 100% steam flow
Bypass valve position --> 10% steam flow

QUESTION: 030 (1.00)

Which ONE of the following statements describes the function of the load limit potentiometer associated with the Electro-Hydraulic Control (EHC) system?

A. Automatically sets the upper limit for generator load

B. Manually operated to set upper limit on total steam flow

C. Automatically sets upper limit for load reject circuitry trip

D. Manually operated to set upper limit on steam flow to turbine

QUESTION: 031 (1.00)

Which ONE of the following conditions will result in a start of the 'A' and 'B' SBGT fans and cause both SBGT filter trains to line up?

A. 0" reactor water level on Unit 2.

B. HPCI System manual start on either unit

C. Equipment Cell Exhaust radiation > 16 mr/hr on Unit 2.

D. 2 psig drywell pressure on Unit 3

QUESTION: 032 (1.00)

The E-1 diesel generator is running for a Surveillance Test (ST) when a rupture of the Emergency Service Water piping causes a complete loss of cooling to the E-1 diesel. From the choices below, select the ONE answer that describes what will happen to the E-1 diesel.

A. The diesel will trip on high DG room temperature

B. The diesel will trip on high lube oil temperature.

C. The diesel will continue to run without any effect.

D. The diesel will continue to run, but must be manually tripped.

QUESTION: 033 (1.00)

Following a failure to scram, the unit operator begins to drive in control rods using "Emergency In" when a RWM insert block is received. Select the ONE statement that describes how the operator may continue to drive in the control rods.

A. Continue to insert rods using "Continuous In"

B. Continue to use "Emergency In" since it bypasses all rod blocks.

C. Continue to use "Emergency In" AFTER bypassing the RWM.

D. The operator cannot insert rods.

QUESTION: 034 (1.00)

A Caution statement in ON-113 "Loss of RBCCW" states that the Recirculation Pump should be tripped if RBCCW is not returned to service. Which ONE of the following statements is a reason for tripping the pump?

A. Prevents overheating the pump casing.

B. Prevents damage to the pump seals.

C. Prevents damage to the motor windings.

D. Prevents warping the pump shaft.

QUESTION: 035 (1.00)

Which ONE of the following controls associated with the RHR system allows bypassing the requirements for 2/3 core coverage AND the presence of a valid LOCA signal to allow opening of the containment spray valves ?

A. Containment Spray manual bypass switch (S19A)

B. Containment Spray override-keylock switch (S18A)

C. Containment Spray Valve Reset-override relay (S33A)

D. Containment Spray Valves Manual Override (S17A)

QUESTION: 036 (1.00)

Ten minutes after a LOCA occurs, the Shift Supervisor directs the Chief Operator to commence Torus Spray using the A RHR pump. Conditions are as follows:

- All 4 RHR pumps are injecting into the vessel
- RPV level = -180" and rising
- RPV pressure = 100 psig steady
- Torus pressure = 8.5 psig and rising

Which ONE of the following statements describes the expected operator response/action for initiating Torus Spray (Open Valves MO-38A and MO-39A)?

A. Reset LOCA signal and Manually initiate Torus Spray

B. Override containment spray 2/3 Core Coverage permissive.

C. Place Containment Spray Valve Control switch in "Manual"

D. Align HPSW to RHR heat exchangers prior to Torus Spray initiation.

QUESTION: 037 (1.00)

Which ONE of the following components of the condensate pump receives cooling from TBCCW?

A. Journal bearing oil cooler

B. Thrust bearing oil cooler

C. Shaft seal oil cooler

D. Motor seal oil cooler

QUESTION: 038 (1.00)

Assume busses are being fed from the Unit Auxiliary Transformer and are properly aligned for fast transfer. Which ONE of the following statements is a condition for a FAST TRANSFER of the unit aux busses to occur?

A. Both S/U feeder breaker control switches are in "pull to lock" positions.

B. Generator breakers (1, 2, 3, 4) open within approximately 20 cycles of lockout.

C. Loss of off-site power followed by a turbine trip with generator lockout.

D. Trip and lockout of both recirculation system Motor Generator (MG) sets

QUESTION: 039 (1.00)

Which ONE of the following combination of the alarms and indications numbered below characterizes the possibility of an uncoupled control rod?

1. "Red" full-out light on full core display.

2. Overtravel alarm.

3. "Red" full-out light on full core display and POSITION 48 indication.

4. Rod drift alarm

5. Blank rod position indication on full core display.

A. 1, 2, 3

B. 2, 4, 5

C. 1, 3, 5

D. 1, 2, 4

QUESTION: 040 (1.00)

Which ONE of the following is the expected result if the offgas recombiner(s) become water logged?

A. Main condenser vacuum increases.

B. Main turbine generator power output increases.

C. Reactor power increases.

D. Main Condenser vacuum decreases.

QUESTION: 041 (1.00)

Which ONE of the following statements describes the design intention of the Main Steam Line (MSL) flow restrictors?

A. Assists the Turbine Control Valves in preventing rapid Main Turbine load changes during transients.

B. Reduces the differential pressure at the outboard MSIVs to less than the design 200 psid allowed to open the valves.

C. Limits the total steam line flow to 200% of full power design in the event of a steam line rupture outside of the Secondary Containment.

D. Maintains a constant backpressure on the Reactor Vessel to allow for more accurate level indication during a Main Turbine load rejection.

QUESTION: 042 (1.00)

Which ONE of the following conditions will result in a loss of secondary containment integrity?

A. Trip of Drywell Purge fans

B. Failure of SGTS

C. Closure one door in each access opening

D. Trip of Reactor Building Ventilation System supply fans

QUESTION: 043 (1.00)

Which ONE of the following is the expected behavior of the Traversing In-core Probe (TIP) system if a PCIS Group IId isolation signal is actuated?

A. TIP retracts fully into shield and then the ball valve automatically closes.

B. TIP retracts fully into shield and then the shear valve automatically fires.

C. TIP inserts fully into the core and then withdraws at fast speed into the shield and then the ball valve closes.

D. TIP remains at present position and then the shear valve automatically fires.

QUESTION: 044 (1.00)

Which ONE of the following design features(s) of the Reactor Protection System (RPS) assures that a scram goes to completion once initiated?

A. Mode switch to shutdown auto bypasses scram after 2 seconds

B. Scram reset logic is NOT enabled for 10 seconds following a full scram.

C. Only one RPS bus can be supplied from the alternate feed at any one time.

D. RPS initial flywheel maintains output for 5 second following a loss of drive motor power.

QUESTION: 045 (1.00)

In accordance with OT-101, High Drywell Pressure-Procedure, which ONE of the following statements is an IMMEDIATE OPERATOR ACTION?

A. Regulate drywell temperature

B. Open drywell vent damper.

C. Maximize drywell cooling.

D. Bypass high drywell pressure isolation interlocks

QUESTION: 046 (1.00)

Unit 3 is operating at 85% power. A reactivity transient occurs which causes:

- No change to total core flow.
- Generator electrical output to decrease.
- No change to feedwater enthalpy.

Which ONE of the following events is the cause of the reactivity transient?

A. Inadvertent safety relief valve opening.

B. Reactor recirculation pump speed decrease.

C. Feed water pump trip.

D. Feed water heater trip.

QUESTION: 047 (1.00)

In accordance with T-101, RPV Control - Bases, which ONE of the following statements is a reason that ADS is inhibited whenever boron injection is required?

A. To prevent a loss of boron from the vessel resulting in a reactivity increase.

B. To prevent a possible power excursion that may result in substantial fuel damage.

C. To prevent an excessive depressurization that would cause the SLC pumps to runout.

D. To prevent an increase in natural circulation resulting in decreased voiding and an increase in power.

QUESTION: 048 (1.00)

During the performance of OT-101," High Drywell Pressure", the plant operator inadvertently trips two chillers while raising their demand limiter settings. Which ONE of the following describes the status of the automatic RBCCW swap-over to drywell cooling water loads?

A. The swap-over would not occur due to DWCW header pressure being normal.

B. The swap-over would not occur due to power being available to the load centers supplying the chillers.

C. The swap-over would occur due to loss of power to the chiller motors.

D. The swap-over would occur due to drop out of the chiller motor contacts.

QUESTION: 049 (1.00)

Which ONE of the following is the MINIMUM reactor HIGH Steam Dome pressure which would result in a violation of a PBAPS Safety Limit?

A. 1205 psig

B. 1250 psig

C. 1325 psig

D. 1375 psig

QUESTION: 050 (1.00)

A scram has occurred, the SDV is full and the scram pilot valve air header is 0 psig but there are 21 rods still out and the reactor power has stabilized at 12%. All blue scram lights are on. In accordance with T-101, "RPV Control" which ONE of the following methods should the operator use to insert the remaining control rods?

A. Individually scram control rods using T-213 (Scram Solenoid Deenergization) if necessary.

B. Isolate and vent the scram air header by resetting the ARI.

C. De-energize the scram solenoids by placing mode switch to SHUTDOWN.

D. Reset the scram, drain the SDV and insert rods by either a manual scram or scram test switches.

QUESTION: 051 (1.00)

Which ONE of the following conditions places primary containment integrity considerations over adequate core cooling?

A. Suppression pool water level and reactor pressure can not be maintained below the safety-relief valve tailpipe level limit.

B. Drywell temperature can not be maintained below 225 degrees F.

C. Torus bottom pressure can not be maintained below 28 psig.

D. Torus water level cannot be maintained above the HPCI exhaust line.

QUESTION: 052 (1.00)

An immediate operator action required by OT-112, Recirculation Pump Trip, is to insert the specified GP-9 control rods. Which ONE of the following statements is NOT a basis for inserting the control rods?

A. Inserting control rods minimizes the probability of power oscillations in various regions of the core and thermal hydraulic instabilities.

B. Inserting control rods will prevent operation in the high power/low flow region of the power/flow map.

C. Inserting control rods will further reduce reactor power and increase the margin to the APRM high scram setpoint.

D. Inserting control rods will reduce power and two phase flow restrictions resulting in better mixing in the bottom head region.

QUESTION: 053 (1.00)

In accordance with SE-11, Station Blackout Procedure, all 4 KV buses may be powered from any one diesel. Prior to the crosstie of the 4 KV buses, the control power fuses are removed from major pump breakers on buses other than the bus normally supplied by the running D/G. Which ONE of the following statements is the basis for this action?

A. Prevents damaging the pump.

B. Prevents overloading the Diesel Generator.

C. Prevents overloading the DC control power supply.

D. Disables the undervoltage breaker trip.

QUESTION: 054 (1.00)

Normal AC power is lost to the Unit 2 emergency 4 KV bus in which one of the loads is the "A" ESW pump (The pump associated with Alternate Shutdown Capabilities). Which ONE of the following Emergency Diesel Generators will auto start and re-energize the de-energized bus?

A. Emergency Diesel Generator E-1.

B. Emergency Diesel Generator E-2.

C. Emergency Diesel Generator E-3.

D. Emergency Diesel Generator E-4.

QUESTION: 055 (1.00)

Which ONE of the following states the reason for an instrumented automatic action at a reactor vessel water level of +45 inches?

A. Prevents damage to SRVs from potential two phase flow

B. Trips the HPCI turbine to prevent high vibration due to moisture induction.

C. Trips the reactor feedpump turbine to prevent overfilling reactor vessel

D. Protects the MSIVs from water damage

QUESTION: 056 (1.00)

Which ONE of the following is the expected RCIC behavior if the reactor water level increases to + 56 inches during full flow testing of the system?

A. RCIC Isolation occurs with subsequent RCIC trip.

B. RCIC Isolation occurs with no RCIC pump trip.

C. RCIC pump trips and RCIC steam supply valve, MO-131 remains open.

D. RCIC steam supply valve, MO-131 closes and RCIC trip throttle valve remains open.

QUESTION: 057 (1.00)

While at 95% power on Unit 2, main condenser vacuum is decreasing. Efforts to stop the loss of vacuum have been unsuccessful. Which ONE of the following readings is the lowest vacuum at which it is possible to maintain RPV level with the Reactor Feed Pumps?

A. 23 inches Hg Vac

B. 20 inches Hg Vac

C. 10 inches Hg Vac

D. 7 inches Hg Vac

QUESTION: 058 (1.00)

Which ONE of the following components will AUTOMATICALLY receive cooling from RBCCW in the event that both TBCCW pumps are tripped for longer than 40 seconds?

A. Isolated phase bus coolers

B. Joy compressors

C. Sample coolers

D. CRD pumps

QUESTION: 059 (1.00)

The control room has become uninhabitable due to conditions requiring entry into SE-1, Plant Shut[illegible]n from the Remote Shutdown Panel-Procedure. Which ONE of the [illegible]owing statements is an immediate operator action required by this procedure before leaving the control room?

A. MAXIMIZE drywell cooling

B. VERIFY auto transfer of house loads

C. ESTABLISH torus cooling

D. MANUALLY trip both recirculation pumps

QUESTION: 060 (1.00)

What is the basis for rapid depressurization of the Reactor Vessel PRIOR to reaching the heat capacity temperature limit curve?

A. Minimize the discharge of reactor coolant from unisolated primary system breaks.

B. Depressurize the Reactor while the containment still has the ability to absorb the energy in the reactor.

C. Reduce the pressure in the reactor so that low pressure ECCS are able to inject.

D. Minimize radioactive releases from the RPV into or outside the primary containment.

QUESTION: 061 (1.00)

Which ONE of the following would NOT occur as an automatic response to a valid high drywell pressure signal (2 psig)?

A. TIP nitrogen purge valves isolation

B. Recirculation loop B sample line isolation

C. Torus water cleanup pump suction valves isolation

D. RHR inboard injection valve isolation

QUESTION: 062 (1.00)

Upon entry into ON-107, Loss of CRD Regulating Function - Procedure, you observe that ALL of the following conditions exist:

1. More than half of the control rods are withdrawn
2. CRD pump suction low pressure alarm has illuminated.
3. Reactor pressure is 550 psig.
4. Four (4) CRD accumulator trouble lights are illuminated.
5. CRD charging water header pressure is zero (0) psig.

As the reactor operator, which ONE of the following operator actions are you required to take per ON-107?

A. Bypass and isolate pump suction filter.

B. Place alternate CRD pump in service

C. Close FCV to increase charging water header pressure.

D. Manually scram the reactor.

QUESTION: 063 (1.00)

Unit 2 is operating at 50 psig reactor pressure when the operating CRD pump trips and can not be restarted. The standby CRD pump is started and after five minutes trips and can NOT be restarted. Which ONE of the following remains functional?

A. Ability to cool the control rod drive mechanisms.

B. Ability to provide reactor recirculation pump seal water flow.

C. Ability to withdraw control rods.

D. Ability to insert control rods.

QUESTION: 064 (1.00)

In accordance with OT-114, Inadvertent Opening of a Relief Value - Procedure, the reactor must be manually scrammed if the SRV remains open after the turbine inlet pressure reaches which ONE of the following MINIMUM pressures:

A. 950 psig

B. 900 psig

C. 850 psig

D. 800 psig

QUESTION: 065 (1.00)

Which ONE of the following conditions requires an entry into T-102, Primary Containment Control?

A. Drywell temperature of 95 F.

B. Suppression pool level below 14.6 feet.

C. Reactor water level below -172 inches or unknown

D. At least five SRVs opened

QUESTION: 066 (1.00)

Which ONE of the following automatic isolations of the RWCU system closes the MO-15 and MO-18 valves (Inboard and Outboard RWCU inlet valves respectively)?

A. Reactor low water level

B. Filter demin high inlet temperature

C. High temperature in heat exchanger room

D. High drywell pressure

QUESTION: 067 (1.00)

T-102, Primary Containment Control, step T/L-6 requires a manual reactor scram if the torus level drops below 12.5 feet and T-101 (RPV Control) has NOT been entered. Which ONE of the following is a prudent reason for initiating this scram per T-102?

A. Ensures that the torus temperature can be maintained low enough to preclude the need for RPV depressurization.

B. Minimizes the amount of energy available for release to containment must absorb in the event of an RPV blowdown or LOCA.

C. Ensures that the energy exhausted to the torus by the HPCI turbine will not pressurize the containment.

D. Minimizes the release of oxygen and hydrogen from the radiolytic decomposition of water during a blowdown.

QUESTION: 068 (1.00)

In accordance with ON-115, Loss of Normal Main Control Room Ventilation-Procedure, which ONE of the following statements describes the expected response due to a high radiation trip.

A. Toilet exhaust fan TRIPS

B. Dampers to high efficiency filters ISOLATE

C. Fresh air supply fans TRIP

D. Dampers to Control Room Purge ISOLATE

QUESTION: 069 (1.00)

Which ONE of the following parameters will cause the isolation of the oxygen analyzer?

A. Steam tunnel temperature of 225 degrees F.

B. Drywell pressure of 1.8 psig

C. Oxygen concentration of less than 2%

D. Reactor building exhaust rad levels of 18 mr/hr

QUESTION: 070 (1.00)

Unit 2 is operating with the "A" loop of RHR Shutdown Cooling in service. Reactor water temperature is being maintained between 150 to 180 degrees F when a PCIS Group IIb signal is received. Which ONE of the following is a consequence of this event?

A. Closure of long path recirculation valves, MO-38A,B, with a subsequent decrease in reactor water temperature.

B. Closure of inboard and outboard shutdown cooling valves, MO-17 & MO-18 with a subsequent increase in reactor water temperature.

C. Closure of the operating RHR pump shutdown cooling suction valve, MO-15 and tripping of the associated pump with a subsequent increase in reactor water temperature.

D. Closure of inboard and outboard shutdown cooling valves, MO-17 & MO-18 with a subsequent decrease in reactor water temperature.

QUESTION: 071 (1.00)

In accordance with T-103, Secondary Containment Control - Bases, Which ONE of the following statements describes a purpose for entry into the procedure?

A. Isolation of Reactor Building Ventilation

B. Criticality incident on Refuel Floor

C. ON-114, Fire in Power Block, directed entry

D. Threat to important reactor safety equipment

QUESTION: 072 (1.00)

Which ONE of the following radiation monitors would be capable of detecting a high radiation condition during a refueling accident?

A. Refuel equipment storage ARM

B. Vessel head laydown ARM

C. Steam separator pool ARM

D. New Fuel Vault ARM

QUESTION: 073 (1.00)

Technical Specifications sets maximum limits on chlorides in the reactor coolant system. Select the statement that describes the basis for this limit.

A. Chlorides catalyze the oxidation of carbon steel.

B. Chlorides cause stress cracking of the stainless steel.

C. Chlorides increase galvanic corrosion at dissimilar metal junctions.

D. Chlorides increase the formation of insoluble metallic corrosion products.

QUESTION: 074 (1.00)

What is the color of the appropriate annunciator window for alarms that are associated with Tech Spec instrumentation?

A. Blue

B. Green

C. Red

D. Yellow

QUESTION: 075 (1.00)

Select the Emergency Response Facility that is used for key station supervisors and engineers to provide plant condition analysis and determination of Operations' recommendations.

A. Operations Support Center

B. Emergency Operations Facility

C. Technical Support Center

D. Headquarters Emergency Support Center

QUESTION: 076 (1.00)

A(n) Chemical is defined as a chemical-based material that may pose a significant equipment hazard if improperly handled, used, stored or disposed. May cause significant corrosion to vital plant materials if allowed to intrude into or otherwise contact plant systems and components.

A. Approved

B. Controlled

C. Controlled-Restricted

D. Restricted

QUESTION: 077 (2.00)

Match the responsibility in Column I with the person to whom it is assigned during an emergency in Column II. Assume that all emergency facilities are fully activated. Items in Column I have only one correct answer and items in Column II may be used once, more than once or not at all. (0.50 pts. per response).

Column I (Responsibility)	Column II (Person Assigned Task)
1. Activates emergency response organization.	A. Emergency Director
2. Directs initiation of accountability.	B. Emergency Response Director
3. Authorizes emergency exposure limits and administration of potassium iodide.	C. Emergency Support Officer
4. Serves as primary on-site contact for federal, state and local radiological response agencies.	D. Operations Support Center Coordinator
	E. Technical Support Team Leader

QUESTION: 078 (1.00)

What is the basis for the MAXIMUM containment flooding level used in TRIP-118, "Primary Containment Flooding?"

A. This level of water in the drywell is the structural load limit of the containment walls.

B. This level of water corresponds with the bottom of the main steam lines.

C. This level of water will add no more than 12 psig of pressure to primary containment.

D. This level of water is below the drywell 18 inch vent valves.

QUESTION: 079 (1.00)

During a reactor startup, all power is lost to 24 VDC panel 2BD45 (power to IRMs B, D, F, H and SRMs B, D). The Mode Switch is in Startup. Which of the following will result?

A. Rod block only

B. Rod block and half scram

C. Rod block and full scram

D. Full scram only

QUESTION: 080 (1.00)

The following alarms are annunciated on Unit 2:

- A Instrument Air Header Lo Press
- B Instrument Air Header Lo Press
- Rod Drift

What action should be taken, per ON-119, "Loss of Instrument Air" procedure?

A. Scram and enter T-100

B. Begin a rapid plant shutdown in accordance with GP-9-2

C. Start standby instrument air compressor

D. Restart tripped air compressor, if possible.

QUESTION: 081 (1.00)

T-104,"Radioactivity Release Control" directs that during an inadvertent release the protective action requirements be determined using ERP-317, "Determination of Protective Action Recommendations." Which one of the following is the minimum condition at which ERP-317 must be implemented?

A. Vent Stack Rad High High Alarm

B. Unusual Event Classification

C. Alert Classification

D. Site Emergency Classification

QUESTION: 082 (1.00)

In response to a scram, the operator places the Mode Switch in SHUTDOWN. Besides inserting an additional scram signal, what other function is provided by this action?

A. Enables the Low Vacuum Trip.

B. Bypasses the Group II and III isolation signals.

C. Prevents the MSL low pressure closure to the MSIV's.

D. Energizes the back-up scram valves.

QUESTION: 083 (1.00)

Which set of conditions is indicative of a HYDRAULIC problem causing an ATWS?

A. Scram valves closed, Blue Lights out

B. Scram valves closed, Blue Lights lit

C. Scram valves open, Blue Lights out

D. Scram valves open, Blue Lights lit

QUESTION: 084 (1.00)

TRIP-100 requires the operator to manually transfer the 13 kV system from the unit transformer to the startup source if it has not yet occurred. What is the basis for this action?

A. Prevent any loss of control power.

B. Prevent the CRD pumps from tripping.

C. Keep the turbine on line for as long as possible.

D. Prevent the Recirculation pumps from tripping.

QUESTION: 085 (1.00)

The only means available to verify adequate core cooling when Steam Cooling is being used is by the indication of RPV level at or above inches.

A. -215

B. -200

C. -172

D. -160

QUESTION: 086 (1.00)

The level in the scram discharge volume is 20 gallons. What is the status of the Scram Discharge Volume (SDV) and/or its associated alarms?

A. Normal level, no alarms

B. SDV High Level Alarm initiated

C. SDV High Level Alarm and Rod Block initiated

D. SDV Rod Block initiated

QUESTION: 087 (1.00)

What is the effect of losing the condensate header supply on the Control Rod Drive Hydraulic System?

A. None.

B. The CRD pump will trip on low suction.

C. The CRD pump will draw from the CST.

D. The CRD pump will overheat.

QUESTION: 088 (1.00)

Both units are operating at 100% power. The following fire detectors are inoperable:

- S15A
- S106
- S187

Using the attached copy of Tech Spec 3.14.C, select the actions required by the applicable LCO.

A. Detector S187 must be restored to operable status within 7 days.

B. Detector S106 must be restored to operable status within 14 days.

C. A fire watch patrol must be established to inspect both Unit 2's CRD Area and Unit 3's Operating Area once per shift.

D. A Special Report must be submitted to the Commission within 31 days. Continued reactor operation is permissible.

QUESTION: 089 (1.00)

Which of the following set of conditions will cause a "Bridge Reverse Stop" interlock to actuate during refueling operations?

A. The bridge is over the reactor vessel and one control rod is withdrawn.

B. The bridge is on a switch, indicating it is going to move over the reactor vessel and the main hoist is not full up.

C. The bridge is on a switch, indicating it is going to move over the reactor vessel and there is a 485 lb. load on the main grapple.

D. The bridge is over the reactor vessel and the mode switch is in the start-up position.

QUESTION: 090 (1.00)

The following plant conditions exist:

- DW Pressure = 2 psig
- Rx Water Level = 10 inches
- Rx Pressure = 800 psig
- Mode Switch in Shutdown

Which PCIS group isolations are present?

A. I, II, III

B. II, III, VI

C. II, V, VI, VII

D. II, III, VI, VII

QUESTION: 091 (1.00)

When spraying the drywell to reduce drywell temperature per TRIP-102, "Primary Containment Control," what is the basis for spraying BELOW the DW Spray Initiation Limit Curve?

A. The DW should be sprayed before the temperature reaches the point at which an emergency blowdown is required.

B. The DW should be sprayed prior to the point where the spray will flash to steam and damage critical electrical components.

C. The DW should be sprayed prior to the point where boiling of the RPV level reference legs will cause unreliable measurement.

D. The DW should be sprayed before the point where spraying will result in negative differential pressures in the containment.

QUESTION: 092 (1.00)

Given the following plant conditions:

APRM indicated power: 80%
Total core flow: 42%

Select the ONE statement that describes the expected trip status of the APRMs.

A. Inop trip rod block only.

B. High trip rod block only.

C. High-high thermal trip (scram).

D. High-high neutron trip (scram).

QUESTION: 093 (1.00)

Which ONE of the following sets of plant parameters would have resulted in the trip of the "B" Reactor Feed Pump Turbine? Assume all time delays have timed out.

A.	Reactor Water Level	-38 inches
	Turbine Speed	5800 rpm
	Pump Suction Pressure	350 psig
	Condenser Vacuum	27 inches Hg
B.	Reactor Water Level	+12 inches
	Turbine Speed	5600 rpm
	Pump Suction Pressure	400 psig
	Condenser Vacuum	24 inches Hg
C.	Reactor Water Level	+30 inches
	Turbine Speed	5400 rpm
	Pump Suction Pressure	360 psig
	Condenser Vacuum	20 inches Hg
D.	Reactor Water Level	+44 inches
	Turbine Speed	5200 rpm
	Pump Suction Pressure	320 psig
	Condenser Vacuum	25 inches Hg

QUESTION: 094 (1.00)

Which ONE of the following describes the primary purpose of the Charcoal Adsorbers in the Off-Gas System?

A. Traps particulate matter.

B. Dilutes the hydrogen gas concentration.

C. Adsorbs entrained moisture.

D. Delays radioactive fission products.

QUESTION: 095 (1.00)

During normal operation at 100% power the following occur:

-Reactor Hi Press Alarm annunciates.
-Reactor pressure indicates 1045 psig and increasing slowly.

Per OT-102, "Reactor High Pressure - Procedure " what are the required IMMEDIATE operator actions?

A. Control reactor pressure below 1040 psig by lowering the EHC pressure set.

B. Control reactor pressure below 1040 psig by using maximum combined flow limit.

C. Control reactor pressure below 1040 psig by using the bypass valve jack and reducing reactor power.

D. Scram the reactor and enter T-101.

QUESTION: 096 (1.00)

The reactor is operating at 100% power. A SRV inadvertently sticks open. Torus temperature is 94 degrees F. Per OT-114, "Inadvertent Opening of a Relief Valve," what are the required IMMEDIATE operator action(s)?

A. Place both loops of torus cooling in service.

B. Place both loops of torus cooling in service and runback recirc to minimum.

C. Scram and enter T-101.

D. Runback recirc to minimum, scram and enter T-101.

QUESTION: 097 (1.00)

Unit 2 has just scrammed. The following plant conditions exist:

- Reactor Power 3%
- Reactor Water Level 17 inches
- Reactor Pressure 1057 psig
- Drywell Hydrogen Concentration 1.0%
- Torus Level 14.6 feet
- Steam Tunnel Hi Area Temperature Alarm enunciated

Which ONE of the following sets of procedures must be entered?

RC - "RPV Control"
PC - "Primary Containment Control"
SC - "Secondary Containment Control"

A. RC and PC

B. RC and SC

C. PC and SC

D. RC, PC and SC

QUESTION: 098 (1.00)

In accordance with Tech Spec table 6.2.1, Shift Crew Composition Minimum Requirements, which ONE of the following is the MINIMUM number of licensed personnel required to staff the control room when BOTH units are NOT operating?

A. One (1) RO and one (1) SRO

B. Two (2) ROs and one (1) SRO

C. Two (2) ROs and two (2) SROs

D. Three (3) ROs and two (2) SROs

QUESTION: 099 (1.00)

During a declared emergency, communication is maintained with the NRC by the "NRC Communicator" in accordance with ERP 110, Emergency Notifications. The "NRC Communicator" must be: (SELECT ONE)

A. knowledgeable about the emergency event and plant conditions

B. assigned by the Shift Manager when an emergency is declared

C. designated in the control room log at the beginning of each shift

D. capable of operating two-way radios in accordance with FCC regulations

(********** END OF EXAMINATION **********)

ANSWER: 001 (1.00)

A.

REFERENCE:

PBAPS LOT-0550, Rev 4, obj 16, pg 17
NUREG-1123, NRC BWR K/A Catalog, K/A 259002, K3.01, 3.8/3.8
(p.3.2-44)

259002K301 ..(KA's)

ANSWER: 002 (1.00)

C.

REFERENCE:

PBAPS LOT-0005, Rev 3, obj 21
PBAPS LOT-1500, Rev 7, obj 2k, pg 8
PBAPS A-41, pg 4 of 18
PBAPS OM-10.C.2, pg 6 of 13
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, K1.02, 3.9/4.5*
(p.2-1)

294001K102 ..(KA's)

ANSWER: 003 (1.00)

D.

REFERENCE:

PBAPS LOT 1730, Rev 7, obj 1b, pg 5
10CFR20
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, K1.03, 3.3/3.8
(p.2-1)

294001K103 ..(KA's)

ANSWER: 004 (1.00)

A.

REFERENCE:

PLAPS LOT 0330, Rev 6, obj.5b, p15
NUREG-1123, NRC BWR K/A Catalog, K/A 218000, A3.04, 3.7/3.8
(p.3.3-2)

218000A304 ..(KA's)

ANSWER: 005 (1.00)

A.

REFERENCE:

PBAPS LOT 0310, Rev 7, obj 5h, p. 18
NUREG-1123, NRC BWR K/A Catalog, K/A 211000, K1.06, 3.7/3.7
(p.3.1-31)

211000K106 ..(KA's)

ANSWER: 006 (1.00)

B.

REFERENCE:

PBAPS LOT 0080, Rev 5, obj 3, p.13-14
NUREG-1123, NRC BWR K/A Catalog, K/A 201002, K405, 3.3/3.3
(p.3.1-12)

201002K405 ..(KA's)

ANSWER: 007 (1.00)

C.

REFERENCE:

PBAPS LOT-1560, Rev 5, obj 6, pg 6
PBAPS T-101 Bases, p. 8 of 21.
NUREG-1123, NRC BWR K/A Catalog, K/A 295037,EK3.06, 3.8/4.4
(p.4.1-38)

295037K306 ..(KA's)

ANSWER: 008 (1.00)

A.

REFERENCE:

PBAPS LOT-0030, Rev 4, obj 6a, pg.48
PBAPS LOT-0010, pg.33
PBAPS ON-100
NUREG-1123, NRC BWR K/A Catalog, K/A 202001,K6.01, 3.5/3.7
(p.3.1-21)

202001K601 ..(KA's)

ANSWER: 009 (1.00)

B.

REFERENCE:

PBAPS LOT-0005, Rev 3, obj 21, pg 25
PBAPS LOT-1570, Rev 7, obj 2v, pg 10
PBAPS OM-11, pg 2,3
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, A1.12, 3.4/4.2
(p.2-2)

294001A112 ..(KA's)

ANSWER: 010 (1.00)

A.

REFERENCE:

PBAPS LOT 1560, Rev 5, obj 6, pg 6
PBAPS T-103/T-104
PBAPS LOT 1560, obj. 2
NUREG-1123, NRC BWR K/A Catalog, K/A 295017, G0.05, 3.8/3.8
(p.4.2-52)

295017G005 ..(KA's)

ANSWER: 011 (1.00)

B.

REFERENCE:

PBAPS GET Handbook, Rev date 8/2/90, obj 40, chpt 3, pg 12 of 15
10CFR20
Hope Creek RO Exam, question #11, 9/24/90
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, K1.03, 3.3/3.8
(p.2-1)

294001K103 ..(KA's)

ANSWER: 012 (1.00)

A.

REFERENCE:

PBAPS A-1, pg 2 of 16
Hope Creek RO Exam, Quest. #57, 9/24/90
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, A1.11, 3.3/3.8
(p.2-1)

294001A111 ..(KA's)

ANSWER: 013 (1.00)

B.

REFERENCE:

10 CFR 26
Hope Creek RO Exam, Quest. # 83, 9/24/90
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, A1.03, 2.7/3.7
(p.2-2)

294001A103 ..(KA's)

ANSWER: 014 (1.00)

C.

REFERENCE:

PBAPS LOT-0005, Rev 3, obj 23, pg
PBAPS OM-8, pg 19 of 32
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, A1.06, 3.4/3.6
(p.2-2)

294001A106 ..(KA's)

ANSWER: 015 (1.00)

B.

REFERENCE:

PBAPS LOT 0450, Rev 7, obj 7b, page 12
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, K1.08, 3.1/3.4
(p.2-1)

294001K108 ..(KA's)

ANSWER: 016 (1.00)

C.

REFERENCE:

LOT-1560, Rev 5, obj 2, page 4
PBAPS T-101
NUREG-1123, NRC BWR K/A Catalog, K/A 294001, A1.02, 4.2/4.2
(p.2-2)

294001A103 ..(KA's)

ANSWER: 017 (1.00)

B.

REFERENCE:

PBAPS LOT-0040, Rev 4, Obj 4b, p.8.
NUREG-1123, NRC BWR K/A Catalog, K/A 202002, K1.02,
4.2/4.2(p.3.1-15)

202002A101 ..(KA's)

ANSWER: 018 (1.00)

B.

REFERENCE:

PBAPS LOT-0370, Rev 7, obj 5a, p.26
SO 10.7.A-3, Rev 3, p.
NUREG-1123, NRC BWR K/A Catalog, K/A 203000, K1.17, 4.0/4.0
(p.3.2-49)

203000K117 ..(KA's)

ANSWER: 019 (1.00)

C.

REFERENCE:

PBAPS LOT 0370, Rev 7, obj 2c, pg 23
NUREG-1123, NRC BWR K/A Catalog, K/A 203000, K4.11, 4.0/4.0
(p.3.2-49)

203000K411 ..(KA's)

ANSWER: 020 (1.00)

C.

REFERENCE:

PBAPS LOT 0340, rev 7, obj 1d, pg 35
NUREG-1123, NRC BWR K/A Catalog, K/A 206000, A4.01, 3.6/3.5
(p.3.2-4)

206000A401 ..(KA's)

ANSWER: 021 (1.00)

A.

REFERENCE:

PBAPS LOT-0340, Rev. 007, obj 5e, pg. 27
NUREG-1123, NRC BWR K/A Catalog, K/A 206000, A1.08., 4.1/4.0
(p.3.2-3)

206000A108 ..(KA's)

ANSWER: 022 (1.00)

B.

REFERENCE:

PBAPS LOT-0350, Rev 8, obj 5h, pg 12
NUREG-1123, NRC BWR K/A Catalog, K/A 209000, A4.03., 3.7/3.6
(p.3.2-16)

209001A403 ..(KA's)

ANSWER: 023 (1.00)

D.

REFERENCE:

PBAPS LOT 0250, Rev 7, obj 2e, p.7
NUREG-1123, NRC BWR K/A Catalog, K/A 215003, G0.07, 3.5/3.5
(p.3.7-10)

215003G007 ..(KA's)

ANSWER: 024 (1.00)

D.

REFERENCE:

PBAPS LOT 0240, Rev 7, obj 5b, p.12
NUREG-1123, NRC BWR K/A Catalog, K/A 215004, K4.02, 3.4/3.5
(p.3.7-39)

215004K402 ..(KA's)

ANSWER: 025 (1.00)

A.

REFERENCE:

PBAPS LOT-0270, Rev. 008, obj 2d, pg.13
NUREG-1123, NRC BWR K/A Catalog, K/A 215005, K6.03., 4.2/4.1
(p.3.2-4)

215005K603 ..(KA's)

ANSWER: 026 (1.00)

A.

REFERENCE:

PBAPS LOT 0050, Rev 6, obj 6, pg 20
NUREG-1123, NRC BWR K/A Catalog, K/A 216000, A3.01, 3.4./3.4
(p.3.7-14)

216000A301 ..(KA's)

ANSWER: 027 (1.00)

A.

REFERENCE:

PBAPS LOT-0380, Rev. 008, obj 2g, pg.16
PBAPS SO-13.1C-2,Rev.1,RCIC SYSTEM AUTOMATIC INITIATION
RESPONSE,section 4.1
NUREG-1123, NRC BWR K/A Catalog, K/A 217000, A2.01., 3.8/3.7
(p.3.2-27)

217000A201 ..(KA's)

ANSWER: 028 (1.00)

C.

REFERENCE:

PBAPS LOT 0330, Rev 6, obj 5b, p18
NUREG-1123, NRC BWR K/A Catalog, K/A 218000, A4.04, 4.1/4.1
(p.3.3-3)

218000A404 ..(KA's)

ANSWER: 029 (1.00)

A.

REFERENCE:

PBAPS LOT-0590, Rev. 004, Obj 2, pgs 12-18
NUREG-1123, NRC BWR K/A Catalog, K/A 241000, K1.06, 3.8/3.9
(p.3.3-12)

241000K106 ..(KA's)

ANSWER: 030 (1.00)

D.

REFERENCE:

PBAPS LOT-0590, Rev 4, obj 7, pg 13
NUREG-1123, NRC BWR K/A Catalog, K/A 241000, A4.19, 3.5/3.4
(p.3.3-17)

241000A419 ..(KA's)

ANSWER: 031 (1.00)

A.

REFERENCE:

PBAPS LOT-0210, Rev 4, obj 5a, pg 10
NUREG-1123, NRC BWR K/A Catalog, K/A 261000, A3.02, 3.2/3.1
(p.3.9-33)

261000A302 ..(KA's)

ANSWER: 032 (1.00)

B.

REFERENCE:

PBAPS LOT-0670, Rev 4, obj 4, pg 38
PBAPS LOT-0680, Rev 7, obj 4a, pg 14
NUREG-1123, NRC BWR K/A Catalog, K/A 264000, K4.01, 3.5/3.7
(p.3.6-10)

264000K401 ..(KA's)

ANSWER: 033 (1.00)

C.

REFERENCE:

PBAPS LOT-0090, Rev 6, obj 5a, pg.17
PBAPS LOT-0080, Rev 5, obj 4a, pg.13, 16
NUREG-1123, NRC BWR K/A Catalog, K/A 201006,A3.02., 3.5/3.4
(p.3.7-37)

201006K404 ..(KA's)

ANSWER: 034 (1.00)

B.

REFERENCE:

PBAPS LOT-0030, Rev 4, obj 1g, pg.13
PBAPS ON-113 Bases
NUREG-1123, NRC BWR K/A Catalog, K/A 202001,K1.07, 3.1/3.2
(p.3.1-19)

202001K107 ..(KA's)

ANSWER: 035 (1.00)

B.

REFERENCE:

PBAPS LOT-0370, Rev 7, obj 5, pg. 22
NUREG-1123, NRC BWR K/A Catalog, K/A 226001,A4.07,3.5/3.5
(p.3.5-26)

226001A407 ..(KA's)

ANSWER: 036 (1.00)

C.

REFERENCE:

PBAPS LOT-0370, obj 9c, pg. 26
NUREG-1123, NRC BWR K/A Catalog, K/A 230000,K4.03,3.5/3.6
(p.3.5-29)

230000K403 ..(KA's)

ANSWER: 037 (1.00)

D. B

REFERENCE:

LOT-0520, Rev 3, obj 3, pgs 8 & 21
NUREG-1123, NRC BWP K/A Catalog, K/A 256000 K6.05, 2.9/2.9
(p.3.2-21)

256000K605 ..(KA's)

ANSWER: 038 (1.00)

B.

REFERENCE:

PBAPS LOT-0640, Rev 5, obj 5, pg 26
NUREG-1123, NRC BWR K/A Catalog, K/A 262001 A3.02, 3.2/3.3
(p.3.6-3)

262001A302 ..(KA's)

ANSWER: 039 (1.00)

B.

REFERENCE:

PBAPS LOT 0060, Rev 6, obj 3b, pg 17
NUREG-1123, NRC BWR K/A Catalog, K/A 201003 K4.02, 3.8/3.9
(p.3.1-7)

201003K402 ..(KA's)

ANSWER: 040 (1.00)

D.

REFERENCE:

PBAPS LOT-0510, Rev. 006, pg 8
NUREG-1123, NRC BWR K/A Catalog, K/A 271000, A1.01,3.3/3.2
(p.3.9-7)

271000A101 ..(KA's)

ANSWER: 041 (1.00)

C.

REFERENCE:

PBAPS LOT 0120, Rev 9, obj 2c, pg 14
NUREG-1123, NRC BWR K/A Catalog, K/A 239001, G0.07, 3.7/3.8
(p.3.9-7)

239001G007 ..(KA's)

ANSWER: 042 (1.00)

B.

REFERENCE:

PBAPS LOT 0190, Rev 6, obj 6a, pg 8
NUREG-1123, NRC BWR K/A Catalog, K/A 290001, K6.03, 3.8/4.0
(p.3.5-36)

290001K603 ..(KA's)

ANSWER: 043 (1.00)

A.

REFERENCE:

PBAPS LOT-0290, Rev. 004, obj 3, p.4
NUREG-1123, NRC BWR K/A Catalog, K/A 215001,K.1.05.3.3/3.4
(p.3.7-43)

215001K105 ..(KA's)

ANSWER: 044 (1.00)

B.

REFERENCE:

PBAPS LOT 300, Rev 10, obj 5h, pg 29
NUREG-1123, NRC BWR K/A Catalog, K/A 295006,K2.01, 4.3/4.4
(p.4.2-19)

295006K201 ..(KA's)

ANSWER: 045 (1.00)

C.

REFERENCE:

LOT-1540, Rev 3, obj 2, page 3
OT-101, High Drywell Pressure, pg 1
NUREG-1123, NRC BWR K/A Catalog, K/A 295010, A1.01, 3.4/3.5
(p.4.2-31)

295010A101 ..(KA's)

ANSWER: 046 (1.00)

A.

REFERENCE:

LOT-1560, Rev 5, obj 6, page 6
PBAPS CT-114, Rev , Inadvertent Opening of a Relief Valve - Procedure,
NUREG-1123, NRC BWR K/A Catalog, K/A 295014, A1.07, 4.0/4.1
(p.4.2-41)

295014A107 ..(KA's)

ANSWER: 047 (1.00)

B.

REFERENCE:

PBAPS LOT-1560, Rev 5, obj 3, page 6
PBAPS T-101 Bases, RC/Q-19, Inhibit ADS, Rev 10, pg 8
WPPSS-2 RO Exam, Question #24, 4/5/91
NUREG-1123, NRC BWR K/A Catalog, K/A 295014, A2.03, 4.0/4.1
(p.4.2-42)

295014A203 ..(KA's)

ANSWER: 048 (1.00)

B.

PEFERENCE:

PBAPS LOT-0150, p.12,
NUREG-1123, NRC BWR K/A Catalog, K/A 295024,EA2.02,3.9/4.0
(p.4.1-2)

295024A202 ..(KA's)

ANSWER: 049 (1.00)

C.

REFERENCE:

PBAPS Tech Spec, Sec 1.2, Reactor Coolant System Integrity, pg 29
WPPSS-2 RO Exam, quest. #83, 4/5/91
NUREG-1123, NRC BWR K/A Catalog, K/A 295025, EK1.05, 4.1/4.7
(p.4.1-5)

295025K105 ..(KA's)

ANSWER: 050 (1.00)

D.

REFERENCE:

PBAPS LOT-0070, Rev 6, obj 4d & e, pg 23
PBAPS LOT-1560, Rev 5, obj 1, pg 6
PBAPS T-101, RPV Control
Hope Creek RO exam, question #77, 9/24/90
NUREG-1123, NRC BWR K/A Catalog, K/A 295015, G0.12, 3.7/4.4
(p.4.2-47)

295015G012 ..(KA's)

ANSWER: 051 (1.00)

D.

REFERENCE:

PBAPS LOT-1560, Rev 5, obj 6, pg 6
PBAPS T-102, Rev 6, Primary Containment Control Bases,p 5.
NUREG-1123, NRC BWR K/A Catalog, K/A 295031,EK1.01,4.6/4.7
(p.4.1-21)

295031K101 ..(KA's)

ANSWER: 052 (1.00)

D.

REFERENCE:

PBAPS LOT 0030, Rev 4, obj 8b, pg 46
PBAPS LOT 1540, Rev 3, obj 2, pgs 3 & 4
PBAPS OT-112 Bases, pg 2
NUREG-1123, NRC BWR K/A Catalog, K/A 295001, G0.07, 3.3/3.6
(p.4.2-2)

295001G007 ..(KA's)

ANSWER: 053 (1.00)

B.

REFERENCE:

PBAPS LOT 1555, Rev 2. obj 12b, pgs 11 & 12
PBAPS SE-11, Station Blackout - Bases
NUREG-1123, NRC BWR K/A Catalog, K/A 295003, K3.10, 3.3/3.5
(p.4.2-9)

295003K301 ..(KA's)

ANSWER: 054 (1.00)

B.

REFERENCE:

PBAPS LOT-0660, Rev. 008, p7.
NUREG-1123, NRC BWR K/A Catalog, K/A 295003,EK2.02,4.1/4.2
(p.4.2-9)

295003K202 ..(KA's)

ANSWER: 055 (1.00)

C.

REFERENCE:

PBAPS LOT-0550, Rev 4, obj 15,pgs 9, 14
Hope Creek RO exam, quest. #99, 9/24/90
NUREG-1123, NRC BWR K/A Catalog, K/A 295008,EK3.04, 3.3/3.5
(p.4.2-25)

295008K304 ..(KA's)

ANSWER: 056 (1.00)

D.

REFERENCE:

PBAPS LOT-0380, Rev 8, p.20.
NUREG-1123, NRC BWR K/A Catalog, K/A 295008, AA1.05., 3.3/3.3
(p.4.2-26)

295008A105 ..(KA's)

ANSWER: 057 (1.00)

B.

REFERENCE:

PBAPS LOT 0540, Rev 4, obj 4, pg 15
WNP2 RO exam, question #78, 4/5/91
NUREG-1123, NRC BWR K/A Catalog, K/A 295002, K2.05, 2.7/2.7
(p.4.2-[illegible])

295002K205 ..(KA's)

ANSWER: 058 (1.00)

D.

REFERENCE:

PBAPS LOT 0430, Rev 5, obj 3, pgs 5 and 6
NUREG-1123, NRC BWR K/A Catalog, K/A 295018, K2.01, [illegible]/3.4
(p.4.2-55)

295018K201 ..(KA's)

ANSWER: 059 (1.00)

C.

REFERENCE:

PBAPS SE-1, pg 1
PBAPS LOT 1555, Rev 2, objs 2a & 17, pg 10
NUREG-1123, NRC BWR K/A Catalog, K/A 295016, A2.04, 3.9/4.1
(p.4.2-49)

295016A204 ..(KA's)

ANSWER: 060 (1.00)

B

REFERENCE:

T-102 Bases, p. 5 of 26.
LOT-1560, objective 3.
K/A: 295026 K301 (3.8/4.1)

295026K301 ..(KA's)

ANSWER: 061 (1.00)

B.

REFERENCE:

PBAPS LOT 0180, Rev 5, Sec E.2, pg 8
Hope Creek RO Exam, question 42, 9/24/90
NUREG-1123, NRC BWR K/A Catalog, K/A 295020, K2.03, 3.1/3.3
(p.4.2-63)

295020K203 ..(KA's)

ANSWER: 062 (..00)

D.

REFERENCE:

PBAPS ON-107, pg 1
NUREG-1123, NRC BWR K/A Catalog, K/A 295022, K3.01, 3.7/3.9
(p.4.2-69)

295022K301 ..(KA's)

ANSWER: 063 (1.00)

D.

REFERENCE:

PBAPS LOT-0070, Rev. 006,.CRD Hydraulic System
PBAPS ON-107,Rev.2, Loss of CRD Regulating Function - Procedure.
NUREG-1123, NRC BWR K/A Catalog, K/A 295022,AK1.01,3.3/3.4
(p.4.2-69)

295022K101 ..(KA's)

ANSWER: 064 (1.00)

B.

REFERENCE:

PBAPS OT-114
NUREG-1123, NRC BWR K/A Catalog, K/A 295026, G0.10, 4.0/3.8
(p.4.1-10)

295026G010 ..(KA's)

ANSWER: 065 (1.00)

B.

REFERENCE:

PBABS LOT-1560, Rev 5, obj 6, pg 6
PBABS T-102, Rev 5, Primary Containment Control
NUREG-1123, NRC BWR K/A Catalog, K/A 295030, G011, 4.3/4.5
(p.4.1-19)

295030G011 ..(KA's)

ANSWER: 066 (1.00)

A.

REFERENCE:

PBAPS LOT 0180, Rev 5, Seccion E.2, pg 9
NUREG-1123, NRC BWR K/A Catalog, K/A 295020, K2.04, 3.1/3.1
(p.4.2-63)

295020K204 ..(KA's)

ANSWER: 067 (1.00)

B.

REFERENCE:

PBAPS LOT-1560, Rev 5, obj 6, pg 6
PBAPS T-102 Bases, pg 6
NUREG-1123, NRC BWR K/A Catalog, K/A 295030, K3.06, 3.6/3.8
(p.4.1-17)

295030K306 ..(KA's)

068 (1.00)

C.

REFERENCE:

PBAPS LOT 0450
PBAPS ON-115
NUREG-1123, NRC BWR K/A Catalog, K/A 295033, A1.08, 3.6/3.8
(p.4.1-29)

295033A108 ..(KA's)

ANSWER: 069 (1.00)

D.

REFERENCE:

PBAPS LOT 0180, Rev 5, pg 12
NUREG-1123, NRC BWR K/A Catalog, K/A 295038, K3.02, 3.9/4.2
(p.4.1-41)

295038K302 ..(KA's)

ANSWER: 070 (1.00)

B.

REFERENCE:

PBAPS LOT-0180, Rev. 005, PCIS SYSTEM
PBAPS LOT-0-370, Rev.7, RHR SYSTEM, p.23.
NUREG-1123, NRC BWR K/A Catalog, K/A 295021,AK1.01,3.6/3.8
(p.4.2-67)

295021K101 ..(KA's)

ANSWER: 071 (1.00)

D.

REFERENCE:

PBAPS LOT 1560, Rev 5, obj 3, pg 6
NUREG-1123, NRC BWR K/A Catalog, K/A 295032, K2.08, 3.8/3.9
(p.4.1-25)

295032K201 ..(KA's)

ANSWER: 072 (1.00)

C.

REFERENCE:

PBAPS LOT-0760, Rev 6, obj 11, pg 55
NUREG-1123, NRC BWR K/A Catalog, K/A 295023, K2.03, 3.4/3.6
(p.4.2-71)

295023K203 ..(KA's)

ANSWER: 073 (1.00)

B

REFERENCE:

PBAS Tech Specs 3.6.B. Bases
PBAS LOT-1025 objective 2 page 8.
K/A: 294001A114 2.9/3.4

294001A114 ..(KA's)

ANSWER: 074 (1.00)

D

REFERENCE:

PBAS OM-7, p. 9 of 38.
K/A: 294001A113 4.5/4.3

294001A113 ..(KA's)

ANSWER: 075 (1.00)

C

REFERENCE:

PBAS EPP-1100, pg. 16 of 80, objective 2b.
K/A: 294001A116 2.9/4.7

294001A116 ..(KA's)

ANSWER: 076 (1.00)

B

REFERENCE:

PBAS A-96, p. 3 of 14.
K/A: 294001K110 3.1/3.4

294001K110 ..(KA's)

ANSWER: 077 (2.00)

A
D or A
A
B

REFERENCE:

PBAS ERP200-, pg. 1 of 31
PBAS EPP-1100, objectives 11a. page 2[illegible] and 2[illegible] page 21.
K/A: 294001A116 2.9/4.7

294001A116 ..(KA's)

ANSWER: 078 (1.00)

D

REFERENCE:

PBAS T-118 Bases, pg. 1 of 7.
PBAS LOT-1560, objective 4.
K/A: 295024K307 3.5/4.0

295024K307 ..(KA's)

ANSWER: 079 (1.00)

B

REFERENCE:

PBAS LOT-0250, pg. 16 of 20.
PBAS LOT-0250 objective 7b.
K/A: 295004K303 3.1/3.5

295004K303 ..(KA's)

ANSWER: 080 (1.00)

A

REFERENCE:

PBAS ON-119, pg. 1 of 46.
PBAS LOT-1550, objective 2.
K/A: 295019G011 3.9/4.1

295019G011 ..(KA's)

ANSWER: 081 (1.00)

C

REFERENCE:

PBAS T-104, pg. 6.
PBAS LOT-1560, objective 3.
K/A: 295017K102 3.8/4.3

295017K102 ..(KA's)

ANSWER: 082 (1.00)

C

REFERENCE:

PBAS T-100 Bases, pg. 1 of 4.
PBAS LOT-1560, objective 3.
K/A: 295006K201 4.3/4.4

295006K201 ..(KA's)

ANSWER: 083 (1.00)

D

REFERENCE:

PBAS T-101 Bases, pg. 5 of 21.
PBAS LOT-1560, objective 9.
K/A: 295037K212 3.6/3.8

295037K212 ..(KA's)

ANSWER: 084 (1.00)

D

REFERENCE:

PBAS T-100 Bases, pg. 2 of 5.
PBAS LOT-1560, objective 3.
K/A: 295006K204 3.6/3.7

295006K204 ..(KA's)

ANSWER: 085 (1.00)

A

REFERENCE:

PBAS "Introduction to TRIP BASES," pg. 13 of 16.
PBAS LOT-1560, objective 4.
K/A: 295031K101 4.6/4.7

295031K101 ..(KA's)

ANSWER: 086 (1.00)

B

REFERENCE:

PBAS LOT-0070, pg. 29 of 42.
PBAS LOT-0070, objective 4j.
K/A: 201001K411 3.6/3.6

201001K411 ..(KA's)

ANSWER: 087 (1.00)

C

REFERENCE:

PBAS LOT-0070, pg. 32 of 42.
PBAS LOT-0070, objective 6a.
K/A: 201001K601 2.8/2.8

201001K601 ..(KA's)

ANSWER: 088 (1.00)

D

REFERENCE:

PBAS Tech Specs 3.14.C
PBAS LOT-0685, objective 9.
K/A: 286000G005 3.1/3.9

286000G005 ..(KA's)

ANSWER: 089 (1.00)

D

REFERENCE:

PBAS LOT-0760, pgs. 42-44.
PBAS LOT-0760, objective 7a.
K/A: 234000A301 2.6/3.6

234000A301 ..(KA's)

ANSWER: 090 (1.00)

B

REFERENCE:

PBAS GP-8.B, pg. 1 of 6.
PBAS LOT-0180, objective 5g.
K/A: 223002A102 3.7/3.7

223002A102 ..(KA's)

ANSWER: 091 (1.00)

D

REFERENCE:

PBAS T-102 Bases, pg. 13 of 26.
PBAS LOT-1560, objective 3.
K/A: 295012G012 3.6/4.2

295012G012 ..(KA's)

ANSWER: 092 (1.00)

B

REFERENCE:

PBAS LOT-0270, pg. 13 of 20.
PBAS LOT-0270, objective 5a.
K/A: 215005K505 3.6/3.6

215005K505 ..(KA's)

ANSWER: 093 (1.00)

C

REFERENCE:

PBAS LOT-0540, pg. 15 of 20.
PBAS LOT-0540, objective 4.
K/A: 259001A310 3.4/3.4

259001A310 ..(KA's)

ANSWER: 094 (1.00)

D

REFERENCE:

PBAS LOT-0510, pg. 5 of 20.
PBAS LOT-0510, objective 2.
K/A: 271000K406 2.7/2.9

271000K406 ..(KA's)

ANSWER: 095 (1.00)

C

REFERENCE:

PBAS OT-102, pg. 1.
PBAS LOT-1540, objective 2.
K/A: 295025G010 3.9/3.7

295025G010 ..(KA's)

ANSWER: 096 (1.00)

A

REFERENCE:

PBAS OT-114, pg. 1.
PBAS LOT-1540, objective 2.
K/A: 295026G010 4.0/3.8

295026G010 ..(KA's)

ANSWER: 097 (1.00)

D or A

REFERENCE:

PBAS T-101, T-102 and T-103
PBAS LOT-1560, objective 2.
K/A: 295032G011 4.1/4.2

295032G011 ..(KA's)

ANSWER: 098 (1.00)

B

REFERENCE:

PBAS Tech Spec Table 6.2.1, pg. 245.
K/A: 294001A103 2.7/2.7
PBAS LOT-0005, objective 1.

294001A103 ..(KA's)

ANSWER: 099 (1.00)

A

REFERENCE:

PBAS ERP-200, pg. 3 of 31.
PBAS EPP-1100, Objective 7a.
K/A: 294001A116 2.9/4.7

294001A116 ..(KA's)

(********** END OF EXAMINATION **********)

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.14.C Fire Detection	4.14.C Fire Detection
1. The fire detection instrumentation for each plant listed in Table 3.14.C.1 shall be operable when the equipment in that area is required to be operable.	1. a. The smoke detectors listed in Table 3.14.C.1 shall be functionally tested semi-annually in accordance with the manufacturer's instructions. b. The heat detectors listed in Table 3.14.C.1 shall be functionally tested semi-annually with a heat source. c. The NFPA Code 72D Class A supervised circuits between the local panel and control room of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.
2. If the number of operable fire detection instruments is less than the minimum instrument operability requirement of Table 3.14.C.1: a. establish a fire watch patrol to inspect each accessible area at intervals of at least: 1) Once per shift for areas with less than the minimum number of operable instruments required by Table 3.14.C.1 but with at least one instrument operable. 2) Once every hour for areas without an operable instrument. b. restore accessible system components to an operable status within 14 days, or in lieu of any other report required by Specification 6.9.2, submit a Special Report to the Commission pursuant to Specification 6.9.3 within 31 days outlining the cause of the malfunction and the plans for restoring the instruments to an operable status. Reactor startup and/or continued reactor operation is permissible.	2. The testing interval for smoke and heat detectors which are inaccessible due to high radiation or inerting may be extended until such time as the detectors become accessible for a minimum of 36 hours. Such detectors shall be functionally tested at a maximum interval of once per refueling cycle.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS

.D Fire Barriers

. Fire barriers (including walls, floor, ceilings, electrical cable enclosures, cable, piping and ventilation duct penetration seals, fire doors, and fire dampers) which protect safety related systems required to ensure safe shutdown capability in the event of a fire, shall be functional.

1. If the requirements of 3.14.D.1 cannot be met, within one hour establish a continuous fire watch on at least one side of the affected fire barrier, or verify the operability of fire detectors on at least one side of the inoperable fire barrier and establish an hourly fire watch patrol. Reactor startup and continued reactor operation is permissible.

4.14.D Fire Barriers

1. Fire barriers required to meet the provisions of 3.14.D.1 (fire doors excluded - see specification 4.14.D.2) shall be verified operable following maintenance or modifications, and by performing the following visual inspection at least once per 18 months:

   a. The exposed surface of each fire barrier wall, floor, ceiling, and electrical cable enclosure. Exposed surfaces are those surfaces that can be viewed by the inspector from the floor.

   b. Each fire damper.

   c. At least 10 percent of each type of fire barrier penetration seal (including electrical cable, piping, ventilation duct penetration seals, and excluding internal conduit seals) such that each penetration seal will be inspected at least once per 15 years. Difficult-to-view fire barrier (unexposed) walls, ceilings, and electrical cable enclosures that are rendered accessible by the penetration seal inspection program shall also be inspected during each 10 percent inspection.

LIMITING CONDITIONS FOR OPERATION | SURVEILLANCE REQUIREMENTS

4.14.D Fire Barriers (Cont'd)

1. (Continued)

If any penetration seal selected for inspection is found by surveillance requirements 4.14.D.1(c) in a condition which may compromise the operability of the penetration seal, the cause shall be evaluated. If the cause is a failure to adhere to penetration seal procedures, or an identified phenomenon (e.g., physical interference), the cause shall be corrected and potentially affected seals inspected. Otherwise, a visual inspection of an additional 10 percent, selection based on the nature of the degradation, shall be made. This inspection process shall continue until a 10 percent sample with no degradation is found.

2. Fire doors required to meet the provisions of 3.14.D.1 shall be verified operable by inspecting the closing mechanism and latches every 6 months*, and by verifying:

   a. The operability of the fire door supervision system for each electrically supervised fire door by performing a functional test every month.
   b. That each locked-closed fire door is in the closed position every week.
   c. That each unlocked fire door without electrical supervision is in the closed position every day.

*Fire door inspections requiring access to radiation areas may be deferred until the next refueling outage or shutdown initially expected to be of at least a 7-day duration.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.14.E. Water Suppression Systems	4.14.E. Water Suppression Systems
1. The M-G set room and the M-G set lube oil room water suppression systems shall be operable whenever the unit is in reactor power operation.	1. The M-G set room and the M-G set lube oil room water suppression system testing shall be performed as follows:
2. If the requirements of 3.14.E.1 cannot be met,	a. Simulated actuation of the automatic valve(s) and system alarms every refueling cycle.
a. establish a continuous fire watch with portable fire suppression equipment within one hour.	b. Functional test of system integrity alarm (low pipe air pressure) every refueling cycle.
b. restore the system to an operable status within 14 days, or in lieu of any other report required by Specification 6.9.2, submit a Special Report to the Commission pursuant to Specification 6.9.3 within 31 days outlining the cause of the malfunction and the plans for restoring the system to an operable status. Reactor startup and/or continued reactor operation is permissible.	

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.14.F. Battery Room Ventilation Flow Detector	4.14.F Battery Room Ventilat. Flow Detector
1. The battery room ventilation exhaust air flow detector shall be functional	1. The battery room ventilation exhaust air flow detector shall be functionally tested annually.
2. If the requirement of 3.14.F.1 cannot be met, a. verify the operability of the battery room ventilation exhaust system at least once per day. b. restore the flow detector to an operable status within 14 days, or in lieu of any other report required by Specification 6.9.2, submit a Special Report to the Commission pursuant to Specification 6.9.3 within 31 days outlining the cause of the malfunction and the plans for restoring the instrument to an operable status. Reactor startup and continued reactor operation is permissible.	

TABLE 3.14.C.1

FIRE DETECTORS

Location	Detector Type/ Designation(1)	Minimum Detectors Operable
UNIT 2		
Primary Containment (2)(3)	S1, S2, S8	3
CRD Area (135') Rms. 208, 209, 212	S7A, S8A, S9A, S10A S11A, S12A, S13A, S14A S15A, S16A, S17A, S18A S19A, S20A	13
Isol. Valve Compt. (135') Rm. 204	S21A	1
Operating Area (165') Rm. 402, 403	S31A, S32A, S33A, S34A S35A, S36A, S37A, S38A S39A, S40A, S41A, S42A S43A	12
Laydown Area (195') Rm. 501, 502 508	S45A, S46A, S47A, S48A S49A, S50A, S51A, S52A	7
Vent. Equip. Area (195') Rm. 506	S53A, S54A	2
Vent Stack Rad. Mon.-Refuel Floor (234')	S58A, S59A	2
HPCI Room	S78 H5, H6, H7	1 (See 3.14.B.1.c)
RCIC Room	S45, S46	2
Reactor Bldg. Sump Area	S79	1
Core Spray Pump Rooms	S41, S42, S43, S44	4
Vac. Breaker Area-Rm. 107, 108	S91, S92, S93	3
RHR Rooms		
Room 101	S30, S31, S32	3
Room 102	S33, S34, S35	3
Room 103	S36, S37, S38	3
Room 104	S39, S40	2
Torus Area	S83, S84, S85, S86 S87, S88, S89, S90	7
M-G Set Lube Oil Rm (Rm 105)	S94, S95, S96, S97, S98	4

TABLE 3.14.C.1

FIRE DETECTORS

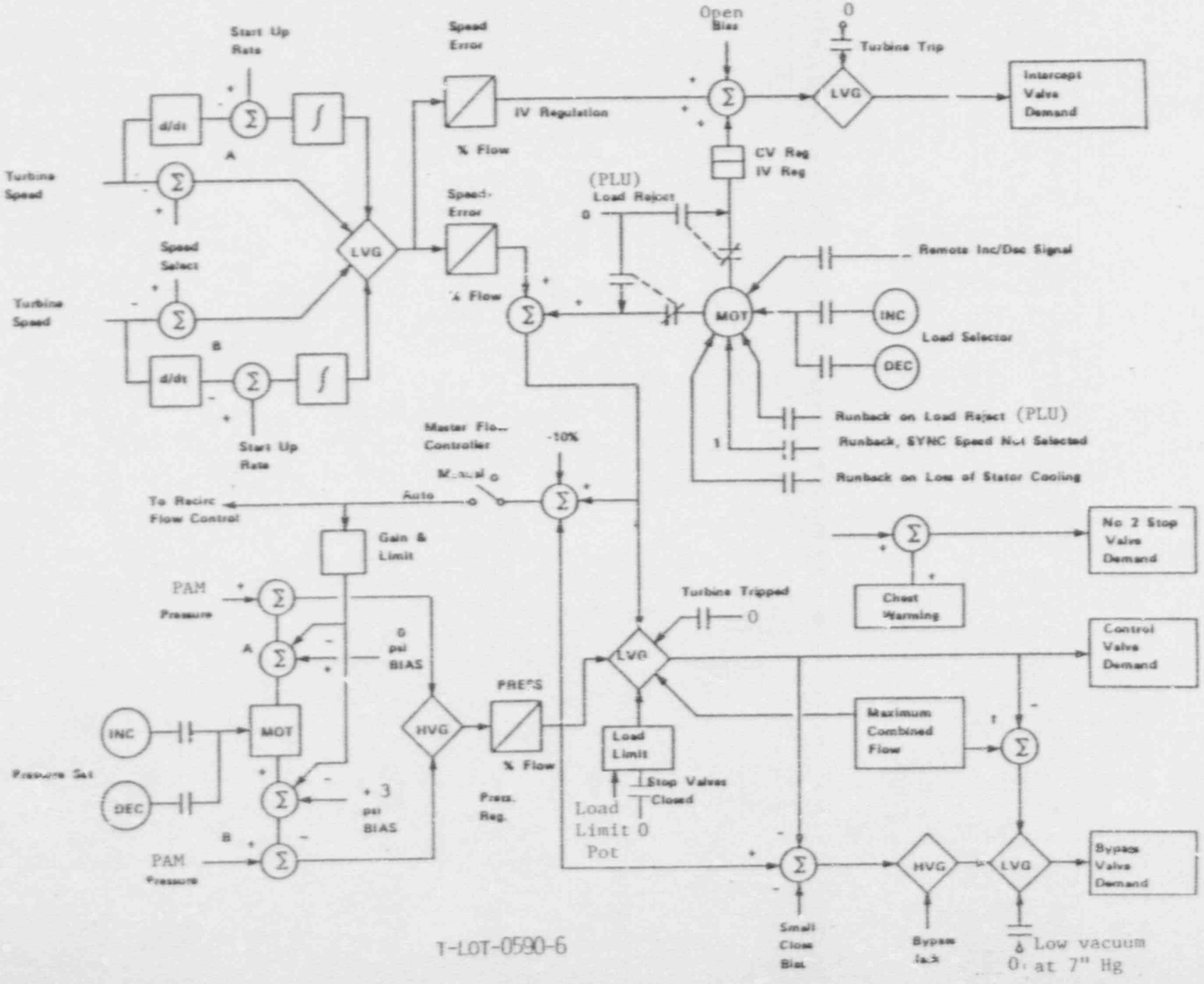
Location	Detector Type/ Designation(1)	Minimum Detectors Operable
Recirc. Pump MG Set Room	S15, S16, S17 S18, S19, S20	5
Emerg. Switchgear Rooms	S11, S12, S13, S14	4
Battery Rooms		
Room 219	S70, S71	2
Room 229	S68, S69	2
13KV Switchgear Area (116')	S72, S73, S74	3
HPSW Pump Room	S390	1
UNIT 3		
Primary Containment (2)(3)	S103, S104, S106	3
CRD Area (135') Rms. 250 252, 257	S166,S167,S168,S169 S170,S171,S172,S173 S174,S175,S176,S177 S178,S179	13
Cntl. Valve Compt. (135') Rm 249	S191	1
Operating Area (165') Rm. 443, 444	S182,S183,S184,S185 S186,S187,S188,S189 S190,S191,S192,S193 S194	13
Laydown Area (195') Rm. 517, 518, 523	S196,S197,S198,S199 S103A,S104A,S105A,S106A	7
Vent. Equip Area (195') Rm. 520	S107A, S108A	2
Vent Stack Rad. Mon.-Refuel floor (234')	S109A, S110A	2
HPCI Room	S148 H115, H116, H117	1 (See 3.14.B.1.c)
RCIC Room	S131, S132	2
Reactor Bldg. Sump Area	S149	1

Amendment No. 96/98
3/28/84

Location	Detector Type/ Designation (1)	Minimum Detectors Operable
Core Spray Pump Rooms	S133, S134, S135, S136	4
Vac. Breaker Area Room 160, 161	S158, S159, S160	2
RHR Rooms		
Room 156	S120, S121	2
Room 157	S122, S123, S124	3
Room 158	S125, S126, S127	3
Room 159	S128, S129, S130	3
Torus Area	S150, S151, S152, S153 S154, S155, S156, S157	7
M-G Set Lube Oil Room (Rm 162)	S161, S162, S163 S164, S165	4
Recirc. Pump MG Set Room	S111, S112, S113 S114, S116, S117	5
Emerg. Switchgear Rooms	S107, S108, S109 S110	4
Battery Rooms		
Room 266	S147, S148	2
Room 268	S145, S146	2
13KV Switchgear Area (116')	S75, S76, S77	3
HPSW Pump Room	S391	1
COMMON		
Control Room	S21, S22, S23, S24	4
Control Room Offices	S137, S138, S139 S140, S141, S142	6
Cable Spreading Room	S4, S7, S9, S10 S47 through S67 (total: 25)	23
Computer Room	S5, S6	2
Diesel Generator Rooms	H550A, B thru H557A, B, and H796A, B thru H819A, B (16 in each room)	(See 3.14.B.3.c)
D-G Bldg. Cardox Room	S540, S541, S542	3

Location	Detector Type / Designation (1)	Minimum Detecto Operable
Standby Gas Treatment System	6 per filter train	5
Radwaste Bldg.		
Room 31(91')	S80, S81, S82	3
Rooms 142,143,145	S99, S1A,S2A	7
147, 154(116')	S3A, S4A, S5A	
	S6A	
Rooms 236,237,238	S23A,S24A, S25A	8
239,242(135')	S26A,S27A,S28A	
	S29A,S30A	
Fan Room (Rm 381)	S3, S44A	4
	S105, S195	
Emergency Cooling Tower Switchgear rooms	H562, H563, H564	4
	H565	
Laboratory Area	H1, H2, H3, H4	4
Recombiner Building	H566, H567, H568	3
Startup Switchgear Building	H558, H559	2
	H560, H561	

(1) S = Smoke Detector H= Heat Detector
(2) Detector(s) inaccessible during normal operation due to ~~in~~ ting
(3) M~~a~~e disabled during ILRT


Start Up Rate
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IV Regulation
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CV Reg
IV Reg
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Load Reject
Speed Error
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Speed Select
LVG
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Load Selector
DEC
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Runback on Load Reject (PLU)
Runback, SYNC Speed Not Selected
Runback on Loss of Stator Cooling
Master Flow Controller
-10%
Manual
Auto
To Recirc Flow Control
Gain & Limit
No 2 Stop Valve Demand
Chest Warning
Turbine Tripped
PAM Pressure
0 psi BIAS
Control Valve Demand
PRESS
HVG
Load Limit
Maximum Combined Flow
Stop Valves Closed
Pressure Set
+ 3 psi BIAS
Press. Reg.
Load Limit 0 Pot
Bypass Valve Demand
Small Close Bias
Bypass Jack
Low vacuum 0 at 7" Hg

T-LOT-0590-6

CCN-91-14142

Attachment 3

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM ATOMIC POWER STATION
R. D. 1, Box 208
Delta, Pennsylvania 17314
(717) 456-7014

PEACH BOTTOM—THE POWER OF EXCELLENCE

D. B. Miller, Jr.
Vice President

September 3, 1991

Regional Administrator
U.S. Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, PA 19406

SUBJECT: Facility Comment on Written License Examinations Administered at Peach Bottom Atomic Power Station, August 26, 1991.

Dear Mr. Conte:

The attachments to this letter document the complete formal comment summary of the Reactor Operator and Senior Reactor Operator License Written Examinations administered on August 26, 1991. The majority of the referenced supporting documentation, of which portions are attached, can be found in materials forwarded to your office for exam preparation.

Sincerely,

for D. B. Miller Jr.

DBM/GAS/JWL:clg

Attachments

cc: R. A. Burricelli, Public Service Electric & Gas
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J. J. Lyash, USNRC Senior Resident Inspector
T. T. Martin, Administrator, Region I, USNRC
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PB Nuclear Records	A4-2S, Peach Bottom
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J. T. Robb	51A-13, Chesterbrook
D. M. Smith	52C-7, Chesterbrook

REACTOR OPERATOR

QUESTION: 052 (1.00)

Which ONE of the following components of the condensate pump receives cooling from TBCCW?

A. Journal bearing oil cooler

B. Thrust bearing oil cooler

C. Shaft seal oil cooler

D. Motor seal oil cooler

ANSWER: 052 (1.00)

D.

REFERENCE:

LOT-0520, Rev. 3, obj. 3, pgs 8 & 21
NUREG-1123, NRC BWR K/A Catalog, K/A 256000, K6.C5, 2.9/2.9 (p.3.2-21)

256000K605 ..(KA's)

SENIOR REACTOR OPERATOR

QUESTION: 037 (1.00)

Which ONE of the following components of the condensate pump received cooling from TBCCW?

A. Journal bearing oil cooler

B. Thrust bearing oil cooler

C. Shaft seal oil cooler

D. Motor seal oil cooler

ANSWER: 037 (1.00)

D.

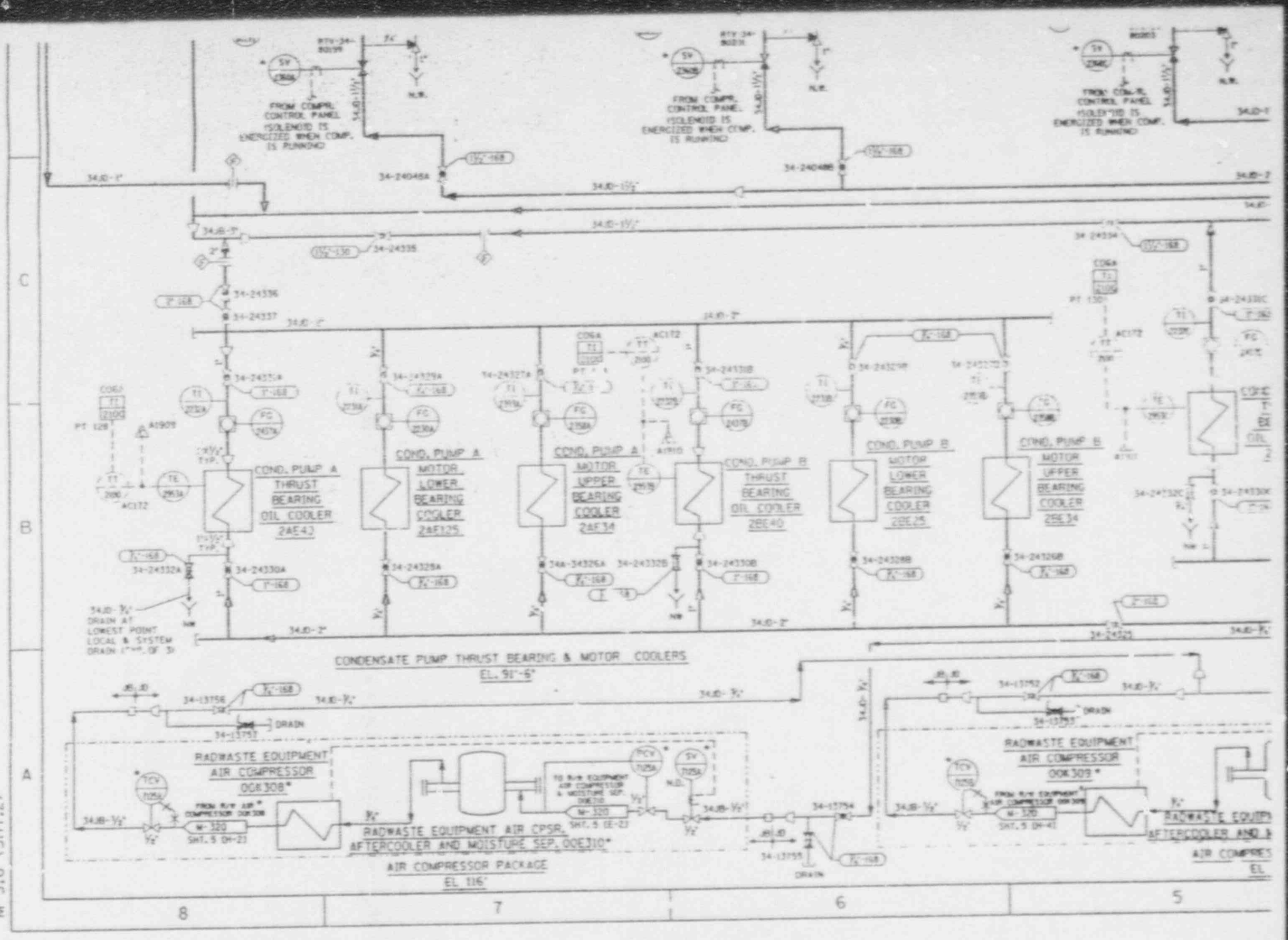
REFERENCE:

LOT-0520, Rev. 3, obj. 3, pgs 8 & 21
NUREG-1123, NRC BWR K/A Catalog, K/A 256000, K6.05, 2.9/2.9 (p.3.2-21)

256000K605 ..(KA's)

FACILITY COMMENT:

RO Question 052, SRO Question 037: Answer B, "Thrust Bearing Oil Cooler" is the correct answer in lieu of Answer D. P&ID M-316, sht. 2 (attached) indicates that TBCCW cooling is provided to the thrust bearing cooler and upper and lower motor bearing cooler.



RO QUESTION 052 REFERENCE
RO QUESTION 037 REFERENCE

SENIOR REACTOR OPERATOR

QUESTION: 077 (2.00)

Match the responsibility in Column I with the person to whom it is assigned during an emergency in Column II. Assume that all emergency facilities are fully activated. Items in Column I have only one correct answer and items in Column II may be used once, more than once or not at all. (0.50 pts. per response)

Column I (Responsibility)	Column II (Person Assigned Task)
1. Activated emergency response organization.	A. Emergency Director
2. Directs initiation of accountability.	B. Emergency Response Director
3. Authorizes emergency exposure limits and administration of potassium iodide.	C. Emergency Support Officer
4. Serves as primary on-site contact for federal, state and local radiological response agencies.	D. Operations Support Center Coordinator
	E. Technical Support Team Leader

ANSWER: 077 (2.00)

A
D
A
B

REFERENCE:

PBAPS ERP-200, pg. 1 of 31
PBAPS EPP-1100, objectives 11a. page 22 and 2d. page 21
K/A: 294001A116 2.9/4.7

294001A116 ..(KA's)

FACILITY COMMENT:

SRO Question 077: Accept Answer A for Item 2 in addition to Answer D. ERP-510, Personnel Accountability (attached), Section 6.2, Criteria for Use, states that this procedure (Personnel Accountability)...., "shall be used ... as directed by the Emergency Director (ED)." Additionally, ERP-200, Emergency Director (attached), Section 1.1.9 lists as a responsibility of the Emergency Director to "act as Accountability Coordinator for the Control Room (CR)," in accordance with ERP-510, Personnel Accountability, whereas ERP-220, Operations Support Center (OSC) Operations Personnel, Item 1.1.3 lists "Accountability Coordinator" as a responsibility of the OSC Coordinator.

SRO QUESTION 077 REFERENCE

8/14/81

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM UNITS 2 AND 3

EMERGENCY RESPONSE PROCEDURE

ERP-510 PERSONNEL ACCOUNTABILITY

1.0 RESPONSIBILITIES

1.1 All members of the PBAPS In-Plant Emergency Response Organization are responsible for reporting to their assigned Emergency Response Facility, carding in and/or logging in for their facilitie's Accountability.

1.2 All non-emergency and TSC/EOF Emergency Response personnel are responsible for evacuating the protected area via the Guardhouse and reporting to their designated facility or assembly area.

1.3 Accountability Coordinators are responsible for providing Security with an Accountability List of personnel assigned to their facility or assembly area upon request.

1.4 The Accountability Group Leader is responsible for:

1.4.1 Directing and controlling of personnel leaving the Protected Area.

1.4.2 Coordinating Accountability Group efforts.

1.4.3 Providing a roster of unaccounted-for personnel to the Security Team Leader within 30 minutes of an Site Evacuation announcement.

1.5 The Access Control Group Leader is responsible for:

1.5.1 Providing traffic control to the assembly areas.

1.5.2 Ensuring notification of non-PA system covered areas.

1.5.3 Providing aid to the Vehicle and Evacuee Control Group Leader.

1.6 The Accountability Group and Access Control Group members are responsible for:

1.6.1 Providing direction and control of personnel leaving the Protected Area.

1.6.2 Obtaining accountability data.

1.6.3 Notifying non-PA system covered areas.

5.0 ATTACHMENTS AND APPENDICES

5.1 Attachment 1 - Personnel Accountability Flow Chart

5.2 Attachment 2 - In-Plant Muster Area Phone List

5.3 Attachment 3 - Accountability List

6.0 SUPPORTING INFORMATION

6.1 PURPOSE

To define the actions of the Security Team and plant personnel necessary to provide accountability of Protected Area personnel during a Site Evacuation.

6.2 CRITERIA FOR USE

This procedure shall be used when a Site Evacuation is announced, or as directed by the Emergency Director (ED).

6.3 REFERENCES

6.3.1 Code of Federal Regulations, Title 10, Energy, Part 50, Appendix E, Section IV, Subsection A, Organization

6.3.2 ERP-500, Security Team Leader (STL)

6.3.3 ERP-520, Security Team

6.3.4 NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

6.3.5 Peach Bottom Atomic Power Station (PBAPS) Emergency Plan

6.3.6 PBAPS Security Plan and Contingency Procedures

RRG:dlk/dmk

7-22-77

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY RESPONSE PROCEDURE

ERP-200 EMERGENCY DIRECTOR (ED)

1.0 RESPONSIBILITIES

1.1 The Emergency Director is responsible to:

1.1.1 Verify the event conditions and determine emergency classification.

1.1.2 Activate and direct the emergency response organization initial response phase.

1.1.3 Direct accident assessment and operations technical analysis.

1.1.4 Coordinate accident mitigation and plant operations stabilizing actions.

1.1.5 Authorize emergency exposure limits and administration of Potassium Iodide (KI). When the Emergency Response Manager is not activated, authorize off-site protective actions.

1.1.6 Be the single source for plant operations information and data.

1.1.7 Inform the Emergency Response Manager of plant status and the consequences of response actions.

1.1.8 Provide final approval of emergency special procedures.

1.1.9 Act as Accountability Coordinator for the Control Room (CR) in accordance with ERP-510 personnel accountability. When the ED shifts from the CR to the Technical Support Center (TSC), Shift Management will remain as Accountability Coordinator for the Control Room.

NOTE: THE EMERGENCY DIRECTOR TITLE IS CREATED UPON THE CLASSIFICATION OF THE EMERGENCY AND IS FILLED BY SHIFT MANAGEMENT. THE PLANT MANAGER DESIGNEE ASSUMES THE DUTIES ON ARRIVAL AND WHEN KNOWLEDGEABLE OF PLANT CONDITIONS, AND SHIFT MANAGEMENT RETURNS TO CONTROL ROOM ASSIGNMENT.

NOTE: THE EMERGENCY DIRECTOR MAY ELECT TO ASSIGN A PERSON AS AN ASSISTANT. THE EMERGENCY DIRECTOR SHALL DESIGNATE THOSE FUNCTIONS FOR WHICH THE ASSISTANT IS RESPONSIBLE.

Ken Powers
8/14/91

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM UNITS 2 AND 3

EMERGENCY RESPONSE PROCEDURE

ERP-220 OPERATIONS SUPPORT CENTER (OSC) OPERATIONS PERSONNEL

1.0 RESPONSIBILITIES

1.1 Operation Support Center Coordinator

1.1.1 Reports to Operation Support Center (OSC).

1.1.2 Supports directives of Emergency Director/Shift Management.

1.1.3 Functions as Accountability Coordinator of personnel reporting to OSC.

1.1.4 Supervises emergency response functions of operations personnel in OSC.

1.1.5 Coordinates accident mitigation actions with Plant Survey Group Leader (PSGL)
AND Damage Repair Group Leader (DRGL).

1.1.6 Coordinates
AND ensures timely relief of OSC personnel.

1.1.7 Coordinates with supply personnel to ensure adequate provisions are available to support accident mitigation actions.

1.2 OSC Operations Personnel

1.2.1 Conducts investigations
AND operations actions directed by OSC Coordinator.

1.2.2 Responds as Fire Brigade members.

2.0 INITIAL ACTIONS

NOTE: ATTACHMENT 1, OPERATIONS SUPPORT CENTER OPERATIONS PERSONNEL FLOW CHART, MAY BE USED AS A GUIDE FOR THE FOLLOWING ACTIONS.

2.1 WHEN assigned position,
THEN OSC Coordinator shall:

2.1.1 Report to OSC.

2.1.2 Coordinate
AND direct activation of OSC per ERP-230.

2.1.3 Request plant status
AND initial response requirements from Emergency Director/Shift Management.

2.1.4 Discuss Health Physic (HP) availability
AND radiological concerns with Plant Survey Group Leader (PSGL).

2.1.5 Discuss personnel status with Damage Repair Group Leader (DRGL).

2.1.6 Brief OSC personnel on emergency conditions.

2.1.7 IF requested,
THEN provide Accountability List to Security.

2.2 OSC Operations Personnel shall:

2.2.1 Report to OSC
AND frisk prior to entering.

2.2.2 Perform OSC activation actions per ERP-230.

2.2.3 IF fire alarm sounds
OR as directed,
THEN respond as Fire Brigade.

2.2.4 Standby for assignments from OSC Coordinator.

2.3 OSC Logbook Keeper Shall:

2.3.1 Make logbook entries:

2.3.1.1 Pertinent OSC events.

2.3.1.2 Pertinent OSC Communications.

2.3.2 Maintain OSC Operations Status Board:

2.3.2.1 Plant Status.

2.3.2.2 OSC operations personnel assignments.

SENIOR REACTOR OPERATOR

QUESTION: 097 (1.00)

Unit 2 has just scrammed. The following plant conditions exist:

- Reactor Power 3%
- Reactor Water Level 17 inches
- Reactor Pressure 1057 psig
- Drywell Hydrogen Concentration 1.0%
- Torus Level 14.6 feet
- Steam Tunnel Hi Area Temperature Alarm enunciated

Which ONE of the following sets of procedures must be entered?

RC - "RPV Control"
PC - "Primary Containment Control"
SC - "Secondary Containment Control"

A. RC and PC

B. RC and SC

C. PC and SC

D. RC, PC and SC

ANSWER: 097 (1.00)

D

REFERENCE:

PBAPS T-101, T-102, and T-103
PBAPS LOT-1560, objective 2.
K/A: 295032G011 4.1/4.2

295032G011 ..(KA's)

FACILITY COMMENT:

SRO Question 097: Accept Answer A in addition to Answer D since all Steam Tunnel Hi Area Temperature Alarms are not necessarily located in the Reactor Building and as such are not necessarily T-103 entry conditions. Specifically, T-102 is entered on "Rx. Bldg. Area Temperature above an alarm level" for areas listed in Table SC/T-3 (attached). For the steam tunnel, only Points 1 and 16 to TR 2(3)-13-139 bring up the "High Area Temp" alarm (see ARC 20C205L J-3 attached) whereas other Steam Tunnel High Temperature Alarms may be received which are not T-103 entry conditions due to their location outside the Reactor Building (see ARC 20C203BB A-Z).

TABLE SC/T-3

TEMPERATURE ALARM AND ACTION LEVELS

AREA	ALARM LEVEL (°F)		ACTION LEVEL (°F)	INSTRUMENT TR-2(3)-13-139 PT # (UNLESS SPECIFIED OTHERWISE)	STATUS
	UNIT 2	UNIT 3			
TORUS ROOM	105	105	135	PT 9,14, OR 24	
	105	115	135	PT 8,15, OR 20	
RCIC ROOM OR HPCI ROOM	105	105	135	PT 2	
	105	105	135	PT 3	
A RHR ROOM OR C RHR ROOM	105	105	135	PT 17	
	105	105	135	PT 29	
B RHR ROOM OR D RHR ROOM	105	105	135	PT 23	
	105	105	135	PT 6	
A CS ROOM OR C CS ROOM	105	105	135	TI-2(3)501 PT 151	
	105	105	135	TI-2(3)501 PT 152	
B CS ROOM OR D CS ROOM	105	105	135	TI-2(3)501 PT 153	
	105	105	135	TI-2(3)501 PT 154	
STEAM TUNNEL	165	175	190	PT 1	
	165	165	190	PT 16	
A ISOL VALVE ROOM (SOUTH)	165	165	190	PT 12	
B ISOL VALVE ROOM (NORTH)	165	165	190	PT 18 OR 21	
ISOL VALVE PIT 165' EL	125	125	150	PT 30	
RWCU REGEN HX ROOM OR A NON REGEN HX ROOM OR B NON REGEN HX ROOM OR A OR B RWCU FLTR DEMIN ROOM OR RWCU BACKWASH VALVE ROOM	125	130	NO ACTION LEVEL	PT 11	
	125	130		PT 28	
	125	125		PT 5	
	105	105		PT 10 OR 27	
	105	105		PT 4	
GENERAL AREA 165' EL (MAY AFFECT RPV LEVEL INST)	105	105	135	PT 22	

-101 RC-1

26

-112 EB-1

P B A P S A L A R M R E S P O N S E C A R D

WINDOW LOCATION

	A	B	C	D	E	F	G	H	J
1									
2									
3									X
4									
5									

ALARM WORDING

Page 1 of 2

HIGH AREA
TEMP

AUTOMATIC ACTIONS:
NONE

OPERATOR ACTIONS:

1. Read the alarming points temperature on TRS-2-13-139 by opening the panel to the Recorder and pressing the "Print Data" push button. These points printed in Red on the chart are in Alarm. The description for these points are given on the plate below the recorder.
2. Dispatch Operator to sensor location to determine the cause of the alarm.
3. IF any of the astorisked points on the following page is alarming, THEN enter T-103 Secondary Containment Control.
4. Verify that SW OR ESW is available to the operating room coolers, that cooler valve alignment is proper and the fans started.[1]

NOTE:

The Standby Cooler and Fan in each of the ECCS rooms has been isolated due to low flow on the ESW system. DO NOT start the Standby Cooler and Fan in any of the ECCS rooms, this would put the ESW and ECCS systems in an untested configuration.

CAUSE:

1. Steam Leak
2. Fire
3. Loss of area cooling
4. Loss of ventilation

ALARM SETPOINT:
See next page.

ALARM RESET:

MANUAL

ACTUATING DEVICE(S):
TRS-2-13-139

REFERENCES:

M-351 Sh 1 & 2 E-242 Sh 2
M-1-S-32 Sh 1 & 2 M-354 Sh 1

1. Limerick LER 1-89-47

ARC NUMBER: 210
20C205L J-3

John P. Cotton
Rev. 3 4/19/90

SRO QUESTION 097 REFERENCE

ALARM SETPOINT:

CHANNEL NO.	THERMOCOUPLE	SET POINT DEGREES F
* 1.	TE-2-02-126A	165
* 2.	TE-2-13-077A	105
* 3.	TE-2-23-105A	105
* 4.	TE-2-12-117B	105
* 5.	TE-2-12-117G	125
* 6.	TE-2-10-098D	105
7.	TE-2-02-126B	160
* 8.	TE-2-13-077B	105
* 9.	TE-2-23-105B	105
* 10.	TE-2-12-117C	105
* 11.	TE-2-12-117H	125
* 12.	TE-2-10-098E	165
13.	TE-2-02-126C	160
* 14.	TE-2-13-077C	105
* 15.	TE-2-23-105C	103
* 16.	TE-2-12-117D	165
* 17.	TE-2-10-098A	105
* 18.	TE-2-10-098F	165
19.	TE-2-02-126D	160
* 20.	TE-2-13-077D	105
* 21.	TE-2-23-105D	165
* 22.	TE-2-12-117E	105
* 23.	TE-2-10-098B	105
* 24.	TE-2-10-098G	105
25.	NONE	
26.	NONE	
* 27.	TE-2-12-117A	105
* 28.	TE-2-12-117F	125
* 29.	TE-2-10-098C	105
* 30.	TE-2-10-098H	125

* T-103 Entry Condition

P B A P S A L A R M R E S P O N S E C A R D

WINDOW LOCATION

	A	B	C	D	E
1					
2	X				
3					
4					
5					

ALARM WORDING

SYSTEM II
STEAM
TUNNEL
HI TEMP

AUTOMATIC ACTIONS:

1. Group I Isolation if in conjunction with System I Steam Tunnel High Temp.

OPERATOR ACTIONS:

1. Check corresponding System I alarm to see Group I isolation condition exists.
2. Notify Shift Management.
3. IF Group I Isolation has NOT occurred, THEN confirm at Panel 20C017.
   a. By indication light #16A-DS257B/D NOT illuminated which "CHANNEL" brought up alarm (B OR D).
   b. By continuity check:
      - o Fuse NOT blown (16A-F2B/D)
      - o Relay Coil NOT defective (16A-K2B/D)
   c. Compare temperature indication for consistency on 2AC270 OR 2BC270 in Control Room.

CAUSE:
Steam leak

ALARM SETPOINT:

192.5 F increasing

ALARM RESET:

MANUAL

ACTUATING DEVICE(S):

TS-4931B & D, 4932B & D, 4933B & D, 4934B & D

REFERENCES:

E-238
M-351
M-1-S-23

ARC NUMBER: 228

20C203BB A-2

Rev. 2

4/4/91

Attachment 4

NRC RESOLUTION TO FACILITY COMMENTS

SRO Question 37 and RO Question 52
NRC Resolution: Comment accepted. Change the correct answer to B; the answer key was incorrect.

SRO Question 77
NRC Resolution: Comment accepted. Accept either A or D for item 2.

SRO Question 97
NRC Resolution: Comment accepted. Accept either A or D as a correct response.

Attachment 5

SIMULATION FACILITY REPORT

Facility Licensee: Philadelphia Electric Company

Facility Docket Nos.: 50-277
50-288

Operating Tests Administered from: August 27 - 28, 1991

These observations do not constitute audit or inspection findings and are not, without further verifications and review, indications of noncompliance with 10CFR 55.45(b). These observations do not affect NRC certification or approved of the simulation facility other than to provide information which may be used in future evaluations. No licensee action is required in response to these observations.

Item	Description
NSSS Codes (PI, OD-x)	Core thermal performance calculation capability was not available during the examination period.
PMS terminal on Operator's desk	The plant performance monitoring system (PMS) terminal was not functioning properly and was not tagged out of service.
Recirculation Loop drive flows	During a scenario, RRS19A, Jet pump #1 riser failure occurred. Flow indication in loop A should have decreased but did not.
Temperature Recorder TRS-2-10-131	During a scenario, when the operator placed shutdown cooling service, no temperature change was observed on TRS-2-10-131 for the RHR Heat Exchanger outlet temperatures.
Loss of all AC power	During scenario verification, with one diesel-generator running, the simulator could not execute IPM01 for loss of all AC power.
Recirculation pump vibration monitor alarm.	During a scenario, the alarm occurred (RRS II) but did not clear in the same manner as it does in the plant. The plant vibration monitor alarm was modified, but the simulator facility has not obtained the documentation to allow the change to be made on the simulator.