

River Bend September 2004 NRC Written Exam Analysis

Following the administration and preliminary grading of the River Bend September 2004 NRC Written Examinations, an exam analysis was completed by the River Bend Training Department with input from the applicants and exam developer in accordance with NUREG-1021, ES-403. The attached table contains the results of the analysis of both written exams in terms of questions missed by each candidate and the INCORRECT answer chosen. The Analysis Comments column summarizes the results of the detailed review of those questions that half or more of the Reactor Operator and/or Senior Reactor Operator candidates missed. The validity of the question and accuracy of the answer key were reviewed for each of those questions.

Questions 7, 18, and 60 are being submitted for deletion from the exam following the exam analysis. All three were found to have no correct answer. Each question is attached following the exam analysis table with justifications for removal and supporting reference materials.

While no Training Program or training material deficiencies were identified in the exam analysis, a River Bend Training Evaluation and Action Request (TEAR) Number RBS-2004-490, has been written for the following:

- Delete Questions 7, 18, and 60 from the River Bend NRC Exam Bank.
- Revise wording of Exam Question 64 to change the last sentence in the stem to read, "Which one of the following describes the long term effect of this event on the Containment Unit Coolers?"
- Further evaluate the Hot License Training Program and materials against all final exam questions missed by at least half of the applicants.

River Bend September 2004 NRC Written Exam Analysis

Question		Reactor Operators				Senior Reactor Operators					Analysis Comments
No.	KEY	S. D.	S. E.	J. R.	D. T.	C. B.	J. F.	R. J.	C. O.	R. Z.	
1	D										
2	C										
3	B	C					A	C	C		Question is valid and answer verified correct.
4	B									A	
5	C										
6	B										
7	D	C		C	C		C	C	C	C	Requested question deletion.
8	B										
9	D	C					B				
10	C		A	A							Question is valid and answer verified correct.
11	B										
12	A										
13	A		C		C			C			Question is valid and answer verified correct.
14	A					D					
15	C		A								
16	B			A							
17	C										
18	B	D	D	D	D	D	D	D	A	D	Requested question deletion.
19	B										
20	D	B									
21	A	B									
22	D				A	C					
23	B		A		C	A		C	A		Question is valid and answer verified correct.
24	D										
25	A										
26	A						D				
27	B	A									
28	A	C	B								Question is valid and answer verified correct.
29	D	B	B	B						C	Question is valid and answer verified correct.
30	C										
31	B		A	A			A	A			Question is valid and answer verified correct.
32	A										
33	C	B	D	D	A	D		D	A	D	Question is valid and answer verified correct.

Question		Reactor Operators				Senior Reactor Operators					Analysis Comments
No.	KEY	S. D.	S. E.	J. R.	D. T.	C. B.	J. F.	R. J.	C. O.	R. Z.	
34	A					B					
35	A		B	B		D					Question is valid and answer verified correct.
36	A				B			C			
37	A	D	D	D	D			D	D	D	Question is valid and answer verified correct.
38	B			A		A					
39	C			B		B					
40	A										
41	C										
42	D		B								
43	C								A		
44	A										
45	D		B								
46	B		C						C		
47	C										
48	C	A		B							Question is valid and answer verified correct.
49	D		A						C		
50	B							C			
51	C		A								
52	A			C				B			
53	B										
54	B										
55	C	A						D			
56	A		C	C					C		Question is valid and answer verified correct.
57	B										
58	A										
59	A										
60	D	A		B	B			B	B	A	Requested question deletion.
61	A									C	
62	D										
63	D										
64	C	D	D	D							Question is valid and answer verified correct.
65	A										
66	C		B								
67	B	D			D						Question is valid and answer verified correct.
68	A										
69	D										
70	A	D	B	B							Question is valid and answer verified correct.

Question		Reactor Operators				Senior Reactor Operators					Analysis Comments
No.	KEY	S. D.	S. E.	J. R.	D. T.	C. B.	J. F.	R. J.	C. O.	R. Z.	
71	C										
72	B		C							C	
73	C					D		D			
74	B										
75	D										
76	C										
77	D										
78	B						D				
79	D										
80	B							A		C	
81	B						D				
82	A										
83	C										
84	D										
85	A						D				
86	A					C				C	
87	D										
88	C						B				
89	B						D				
90	B										
91	D										
92	D										
93	A										
94	A									C	
95	D						A			C	
96	D										
97	D										
98	C										
99	B									D	
100	C										

QUESTION NO. 7 For RO Exam

A total loss of CCP has occurred and the reactor has been scrambled. All automatic actions for the total loss of CCP have occurred including automatic initiation of Standby Service Water.

The CRS has directed the UO to align SSW to the CRD pump bearing coolers and to start a CRD pump per AOP-0011, Step 5.2. AOP-0011 is included as EXAM HANDOUT MATERIAL.

The purpose of placing the RPCCW DIV 1 TEST switch in TEST is to . . .

- A. prevent auto initiation of DIV 1 Standby Service Water Pumps, if they aren't running.
- B. prevent auto closure of the SSW-MOV510B when aligning CCP Loop B to the CRD pump coolers.
- C. allow CCP-MOV163 to be opened.
- D. allow starting either CRD pump.

ANSWER: D

Requires Div 1 in test to bypass <56 psig in Div 1 CCP loop.

A - The TEST switch does not bypass SSW pump start signals only valve closures.

B - Division 2 valve with no isolation on 56 psig in CCP.

C - Division 2 valve with isolation bypassed by Div 2 TEST switch.

K/A

Statement: Knowledge of the purpose and function of major system components and controls applicable to Partial or Total Loss of CCW.

<u>K/A</u>	<u>RO</u>	<u>SRO</u>	<u>10 CFR 55</u>	<u>TECHNICAL REFs</u>	<u>OBJECTIVE REF</u>
295018 2.1.28	3.2	3.3	41.4 41.7 41.10	AOP-0011, Step 5.2 STM-115, Page 15	STM-115 OBJ-

TIER/GROUP: 1/1

LOK: H LOD: 3

ORIGIN: NEW

HISTORY:

BANK QID: 891

SRO and RO Question No. 7

Requested Change:

DELETE the question from the exams because there is NO CORRECT ANSWER.

Justification:

Placing the RPCCW DIV 1 TEST Switch in TEST does not, by itself, “allow the starting either CRD pump,” choice D, the KEY correct answer. Both test switches (DIV 1 and DIV 2) must be placed in TEST to “allow starting either CRD pump.” This electrically bypasses the 56 psig low pressure interlocks from both RPCCW Divisions which are in each of the CRD pump start logics. A 56 psig low pressure condition in either RPCCW Loop will trip BOTH CRD pumps and prevent either from being restarted.

The purpose of placing the RPCCW DIV 1 TEST Switch in TEST at Step 5.2.3 of AOP-0011 is to allow opening CCP-MOV169, which is not a choice in this question. The subsequent AOP steps to place the RPCCW DIV 2 TEST Switch in TEST and open both CCP-MOV163 and CCP-MOV169, all together allow starting either CRD pump.

STM-115A, Reactor Plant Component Cooling Water, Pages 14 and 15, state the purpose of the TEST Switches. Page 15 was used as a reference for this question. At the top of Page 15 is an example of the use of the RPCCW DIV 1 TEST Switch which is similar to, but not the same as, the Question No. 7 conditions. The STM example assumes that the 56 psig signal has been reset after being cleared by aligning SSW to the Div 2 RPCCW Loop. As a result, it does not address placing the RPCCW DIV 2 TEST Switch in TEST as is the case in AOP-0011.

When using AOP-0011 to align SSW to the CRD Pump Bearing Coolers, the 56 psig initiation signal is not reset after the low pressure condition is cleared by aligning SSW to the Division 2 RPCCW loop. This condition requires the RPCCW DIV 2 TEST Switch to also be used to open CCP-MOV163 and allow starting either CRD Pump.

References:

AOP-0011, LOSS OF REACTOR PLANT COMPONENT COOLING WATER Page 7

STM-115.00A, Reactor Plant Component Cooling Water System Training Manual, Pages 14 and 15

NOTE

Steps 5.2 and 5.3 may be performed at the discretion of the OSS/CRS.

- 5.2 Align SSW to the CRD Pump Bearing Cooler as follows:
- 5.2.1. Open SWP-MOV510B, RPCCW LOOP B SUPPLY.
 - 5.2.2. Open SWP-MOV504B, RPCCW LOOP B RETURN.
 - 5.2.3. Place RPCCW DIV I TEST Switch in TEST.
 - 5.2.4. Place RPCCW DIV 2 TEST Switch in TEST.
 - 5.2.5. Open CCP-MOV169, CRD PUMP CLG UP STREAM.
 - 5.2.6. Open CCP-MOV163, CRD PUMP CLG DN STREAM.
 - 5.2.7. Start the CRD System per SOP-0002, Control Rod Drive Hydraulic.
- 5.3 Cross-tie SSW to the in-service Fuel Pool Cooling Heat Exchanger as follows:
- 5.3.1. Open SWP-MOV510A(B), RPCCW LOOP A(B) SUPPLY.
 - 5.3.2. Open SWP-MOV504A(B), RPCCW LOOP A(B) RETURN.

CAUTION

Failure to gradually restore cooling to Recirc Pump Seals can result in thermal shock and subsequent seal failure. Do not rapidly restore cooling to Recirc Pump Seals.

- 5.4 Determine the cause and restore CCP per SOP-0016, Reactor Plant Component Cooling Water System and SOP-0003, Reactor Recirculation.

The following division 2 actions also occur:

- SWP-P2B (D), STBY SVCE WTR PUMP's start.
- SWP-MOV40B (D), STBY PUMP 2B (2D) DISCH opens.
- SWP-MOV55B, STBY CLG TOWER 1 INLET opens.
- SWP-MOV57B, NORM SVCE WTR SUPPLY closes.
- SWP-MOV96B, NORM SVCE WTR RETURN closes.
- SWP-MOV501B, RPCCW HX B SUPPLY closes.
- SWP-MOV511B, RPCCW HX B RETURN closes.
- SWP-FR60B, STBY SVCE WTR SUPPLY & RETURN FLOW RECORDER starts.
- SWP-PR50B, STBY CLG TOWER LVL & PUMP DISCH PRESS RECORDER starts.

G33-F004, RWCU PUMPS OUTBD SUCTION VALVE isolates on RWCU Demin Inlet high temperature.

If a 56 psig isolation of CCP occurs, the operating crew will determine if the safety loads need cooling water while CCP is unavailable. If they do, service water can be valved into the safety loops to provide this cooling in accordance with AOP-0011, Loss Of Reactor Plant Component Cooling Water. Due to the lower quality of service water, this step would be evaluated before taking this action. By opening SWP-MOV510A(B), RPCCW LOOP A(B) SUPPLY and SWP-MOV504A(B), RPCCW LOOP A(B) RETURN, service water will flow through the safety loops to provide cooling.

NOTE: Operation of the SSW manual initiation pushbuttons on H13-P870 produces exactly the same result as CCP system pressure ≤ 56 psig.

6. Div. I and II Test Switches

NOTE: The CCP test switches have no effect on the containment isolation valves. If a containment isolation signal is present, containment isolation valves can not be re-opened until the isolation signal is cleared.

a) Design

The three purposes for these test switches are:

- Allows the Standby Service Water (SSW) System to be manually initiated without affecting CCP System operation.
- Allows CCP valves to remain open during system startup when system pressure is low.

- Allows CCP System isolation valves to be re-opened with low pressure signal still present as shown in the following example:

A 56 psig isolation has occurred in both the Div. I and II Safety Loops. To regain cooling to the CRD pumps, service water is valved into the Div 2 Safety Loop. This will clear the 56 psig. signal for Div 2, but the Div 1 isolation will still be in. To open the Div 1 isolation valve (CCP-MOV 169, CRD PUMP CLG UP STREAM), the Div 1 CCP Test Switch will have to be placed in TEST.

b) Discussion

The Div 1/2 CCP test switches, when placed in the test position, terminates the 56 psig signal to:

- CCP 56 psig isolation valves
- CRD pumps (prevents trip/allows re-start)
- Service water supply and return valves to the CCP Heat Exchangers

c) Controls and Indications

(1) Remote

Two position switches, OFF or TEST, located on H13-P870-55B (see Figure 3)

(2) Local

None

d) Automatic Functions and Interlocks

See discussion above

7. Containment Isolation Valves

a) Design

Containment isolation valves are provided to isolate containment following a Loss Of Coolant Accident (LOCA) signal. The supply line into containment has an isolation MOV outside containment. Since it is a supply line, only a check valve is required inside containment.

NOTE: If a containment isolation signal is present, containment isolation valves can not be re-opened until the isolation signal is cleared. The CCP test switches have no effect on the containment isolation valves.

QUESTION NO. 18 For RO Exam

A manual Reactor Scram has been inserted and the Scram Pilot Solenoid Valve white status lights are off but Control Rod Movement has not occurred. The Emergency Response Information System (ERIS) - Safety Parameter Display System (SPDS), Critical Plant Variables Screen will display the SCRAM condition in the box below the Power box as follows:

- A. The box will change from NO SCRAM to ATWS based on the Scram Relay position and indicated power above the APRM Downscale
- B. The box will remain NO SCRAM and be highlighted in green based on the control rods not fully inserting.
- C. The box will change from NO SCRAM to ????? in a magenta box to indicate bad data, based on the failure to scram.
- D. The box will remain NO SCRAM and be highlighted in red based on indicated power above the APRM Downscale

ANSWER: B

A - The box does not display the word ATWS

C - The box would not display magenta (bad data) because signal is still present and in range.

D - Since the scram relays repositioned as indicated by the pilot lights, ERIS would receive a valid scram signal and change the box from NO SCRAM to SCRAM

K/A

Statement: Knowledge of the interrelations between Scram Condition Present and Reactor Power Above APRM Downscale or Unknown and ERIS.

<u>K/A</u>	<u>RO</u>	<u>SRO</u>	<u>10 CFR 55</u>	<u>TECHNICAL REFs</u>	<u>OBJECTIVE REF</u>
295037 EK2.08	2.7	3.1	41.1 41.2 41.7	STM-514	STM-514 OBJ- H3
TIER/GROUP:	1/1				LOK: F LOD: 2
ORIGIN:	NEW				
HISTORY:					BANK QID: 898

SRO and RO Question No. 18

Requested Change:

DELETE the question from the exams because there is NO CORRECT ANSWER.

Justification:

The correct answer per the KEY for this question was choice B. It is correct that NO SCRAM will be displayed. However, the highlight box around the NO SCRAM status box is colored cyan (light blue), NOT green as is the case for other status boxes on ERIS, such as MSIV status and GROUP ISOL status.

No change in color occurs and the highlight box remains cyan colored. The only other state for this box is when scram conditions are detected (One of the RPS K14 relays in each RPS trip system de-energized and all control rods at position '00') when the displayed status will change to SCRAM in red lettering and the highlight box changes to red.

Attached are ERIS screen printouts from the simulator showing the status of this parameter 1) at rated power, 2) following a hydraulic ATWS and 3) following a normal successful scram.

Therefore, the only correct answer for this question was that the status box would be NO SCRAM highlighted in cyan or light blue which was not provided as a choice.

References:

ERIS Screen Printouts for Full Power, Hydraulic ATWS, and successful scram conditions.

SRV
STATUSRPV
CONTROLCNT
CONTROLSPDS
SELECT

RPV NORMAL

CRITICAL PLANT VARIABLES

CNTMT NORMAL

CONTAINMENT

OPER HI 0.3

PRESS 0.07 PSIG

OPER LO - 0.3

RPV

SRV LIFT 1133

PRESS 1055 PSIG

DG
NOT OPERMSIV
OPENSRV
SHUT

DRYWELL

OPER HI 1.68

OPER HI 90

TEMP 76 °F

DIFF 0.15 PSID
PRESS

OPER HI 145

TEMP 118 °F

TRIP HI 51

LEVEL 35.6 IN

SCRAM LO 9.7

POWER 100 %

APRM DNSCL 5

NO SCRAM

GROUP
ISOL

OPER HI 20 - 0

LVL 19 FT 9.8 IN

OPER LO 19 - 6

OPER HI 100

TEMP 80 °F

SUPPRESSION
POOLSUPPRESSION
POOL

PREV

CANC

F1= CLEAR

F2=

F3= DEMO

F4=

F5=

F6=



TT020

WK= 009/win=2

SEC LVL= 1

PRIM/BACK

CPU S

MODE 1

RBS ERIS SIM

SRV
STATUSRPV
CONTROLCNT
CONTROLSPDS
SELECT

RPV NORMAL

CRITICAL PLANT VARIABLES

CNTMT NORMAL

CONTAINMENT

OPER HI 0.3

PRESS 0.14 PSIG

OPER LO - 0.3

OPER HI 90

TEMP 77 °F

DIFF 0.16 PSID

OPER HI 145

TEMP 124 °F

OPER HI 20 - 0

LVL 20 FT 1.1 IN

OPER LO 19 - 6

SUPPRESSION
POOL

RPV

SRV LIFT 1133

PRESS 1089 PSIG

DRYWELL

OPER HI 1.68

TRIP HI 51

LEVEL -98.0 IN

SCRAM LO 9.7

POWER 41 %

APRM DNSCL 5

NO SCRAM

DG
NOT OPERMSIV
OPENSRV
SHUTGROUP
ISOL

OPER HI 100

TEMP 90 °F

SUPPRESSION
POOL

PREV

CANC

F1= CLEAR

F2=

F3= DEMO

F4=

F5=

F6=



TT020

WK= 009/win=2

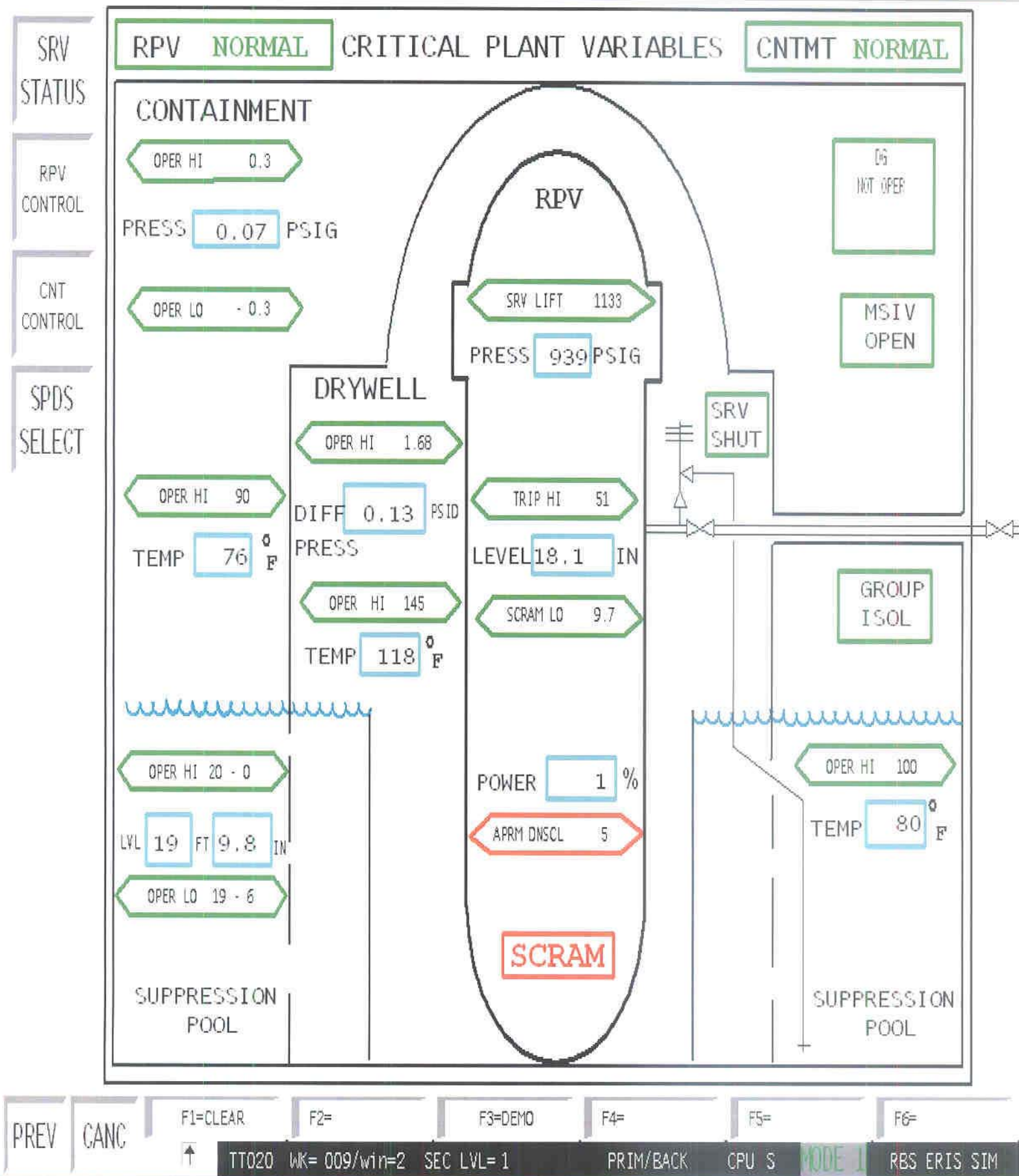
SEC LVL= 1

PRIM/BACK

CPU S

MODE 1

RBS ERIS SIM



QUESTION NO. 60 For RO Exam

A LOCA has occurred inside the Drywell. Twenty minutes later the following annunciators were alarming:

- PERMISSIVE TO OPERATE INBOARD MSIV PLCS
- PERMISSIVE TO OPERATE OUTBOARD MSIV PLCS

Both Divisions of the Main Steam Line Positive Leakage Control System were then initiated. Six minutes later the following annunciator is received:

- INBOARD MSIV PLCS HIGH AIR FLOW

What should be the indicated position of the following valves on the Inboard MSIV PLCS control section of backpanel P655?

	Injection Valve F005	Drain Valve F006	Isolation Valve F007
A.	Open	Closed	Closed
B.	Closed	Open	Closed
C.	Closed	Closed	Open
D.	Closed	Closed	Closed

ANSWER: D

A - F005 should be closed to stop excessive air loss.

B - Normal configuration before initiation or if RPV pressure >25 psig. F006 should be closed.

C - F007 should be closed to isolate any possible rad release path if a break exists upstream.

K/A

Statement: Ability to manually operate/monitor MSIV Leakage Control status lights and alarms in the control room.

<u>K/A</u>	<u>RO</u>	<u>SRO</u>	<u>10 CFR 55</u>	<u>TECHNICAL REFs</u>	<u>OBJECTIVE REF</u>
239003 A4.07	2.8	2.7	41.9	ARP-601-17A-C05	STM-208 OBJ- H4

TIER/GROUP: 2/2

LOK: F LOD: 3

ORIGIN: NEW

HISTORY:

BANK QID: 922

SRO and RO Question No. 60

Requested Change:

DELETE the question from the exams because there is NO CORRECT ANSWER.

Justification:

The stem states that six minutes after initiation of both divisions of MSIV PLCS, the INBOARD MSIV PLCS HIGH AIR FLOW alarm is received. No value of system air flow is provided. The INBOARD MSIV PLCS HIGH AIR FLOW alarm setpoint is >6 scfm after a 5 minute time delay. This setpoint is an alarm function only with no automatic actions per attached ARP H13-P601/17A/C05.

If the flow is >14 scfm then annunciator INBOARD MSIV PLCS TRIPPED will be alarming to indicate excessive flow and automatic isolation of the system to prevent excessive air loss. This condition will close the Injection valve, E33-F005, the Drain valve, E33-F006, and the isolation valve E33-F007 as described in ARP H13-P601/17A/B05.

Based on the information provided in the question, there is no correct answer. The PERMISSIVE TO OPERATE INBOARD MSIV PLCS and INBOARD MSIV PLCS HIGH AIR FLOW annunciators alarming without the INBOARD MSIV PLCS TRIPPED annunciator alarming indicate the system is aligned for operation with high flow (>6 scfm) but not excessively high flow (>14 scfm) where an automatic isolation should have occurred. The correct valve positions for this condition are the Injection Valve F005 OPEN, the Drain Valve F006 CLOSED, and the Isolation Valve F007 OPEN which was not a choice provide in the question.

References:

ARP H13-P601/17A/B05, INBOARD MSIV PLCS TRIPPED

ARP H13-P601/17A/C05, INBOARD MSIV PLCS HIGH AIR FLOW

ARP H13-P601/17A/G05, PERMISSIVE TO OPERATE INBOARD MSIV PLCS

ARP H13-P601/17A/G06, PERMISSIVE TO OPERATE OUTBOARD MSIV PLCS

	INBOARD MSIV PLCS TRIPPED	
ALARM NO. 2427		H13-P601/17A/B05
<u>INITIATING DEVICES</u>		<u>SETPOINTS</u>
1. E33-ESN608		1. > 14 scfm
2. E33-ESN610		2. < 5.5 psid
3. E33A-S1A, OPERATE INBOARD MSIV PLCS DIV I		3. OFF Position
<u>AUTOMATIC ACTIONS</u>		
1. Automatic isolation of the MSIV PLCS.		
2. E33-F007 and F008, ISOLATION VALVES close.		
3. E33-F006, DRAIN VALVE closes.		
4. E33-F005, INJECTION VALVE closes.		
<u>OPERATOR ACTIONS</u>		
1. On H13-P655, check system status.		
<u>LONG TERM ACTIONS</u>		
1. Restart the Inboard System per SOP-0034, MSIV Sealing System (Positive Leakage Control) and Penetration Valve Leakage Control and verify proper valve lineup.		
2. Repair or replace faulty flow element.		
3. Verify E33-PVF002, MSIV SEALING SYS PRESS DIV I CONTROL VLV is set properly and is functioning properly.		
4. Repair or replace faulty differential pressure switch.		
5. Inspect for leaks and correct or isolate same.		
6. IF cause can not be corrected, THEN refer to Technical Specification 3.6.1.9.		
<u>POSSIBLE CAUSES</u>		
1. Excessive flow in system; possibly MSIV, Main Steam Line, or PLCS leak.		
2. E33-FEN006, FLOW ELEMENT or E33-FTN007, FLOW TRANSMITTER failure		
3. System can not attain required differential pressure; possible PCV failure, loss of air compressors, or PLCS supply line header leaks.		
4. E33-ESN610, DIFFERENTIAL PRESSURE SWITCH failure		
5. Improper valve lineup		
<u>REFERENCES</u>		
1. 1.ILMSI.020		
2. 1.ILMSI.021		
3. GE 793E922AA		

ALARM NO. 2428	INBOARD MSIV PLCS HIGH AIR FLOW	H13-P601/17A/C05
<u>INITIATING DEVICES</u>		<u>SETPOINTS</u>
1. E33-R607 and E33-M601		1. Greater than 6 scfm after 5 minute timer runs out
<u>AUTOMATIC ACTIONS</u>		
1. E33-SOVF014, PRESSURE CONTROL BYPASS VLV closes. 2. The following valves close if flow reaches 12 scfm: a. E33-F005, INJECTION VALVE b. E33-F006, DRAIN VALVE c. E33-F007, ISOLATION VALVE d. E33-F008, ISOLATION VALVE		
<u>OPERATOR ACTIONS</u>		
1. On H13-P655, check system status.		
<u>LONG TERM ACTIONS</u>		
1. Verify Div II, Outboard MSIV PLCS is operating properly. 2. Repair or replace E33-PVF002, MSIV SEALING SYS PRESS DIV I CONTROL VLV. 3. Attempt to locate/repair leaking MSIV or PLCS line. 4. Repair or replace faulty E33-R607, FLOW RECORDER or E33-M601, TIMER. 5. <u>IF</u> cause can <u>not</u> be corrected, <u>THEN</u> refer to Technical Specification 3.6.1.9.		
<u>POSSIBLE CAUSES</u>		
1. E33-PVF002 <u>not</u> operating properly 2. Excessive system air flow, MSIV leaking, or PLCS line break 3. Failure of E33-R607 or E33-M601		
<u>REFERENCES</u>		
1. 1.ILMSI.020 2. GE 793E922AA		

ALARM NO. 2432	PERMISSIVE TO OPERATE INBOARD MSIV PLCS	H13-P601/17A/G05
<u>INITIATING DEVICES</u>		<u>SETPOINTS</u>
1. E33-PTN001 and E33-PISN602		1. ≥ 45 psig air and ≤ 25 psig steam
<u>AUTOMATIC ACTIONS</u>		
1. None		
<u>OPERATOR ACTIONS</u>		
1. Manually initiate system per SOP-0034, MSIV Sealing System (Positive Leakage Control) and Penetration Valve Leakage Control if required.		
<u>LONG TERM ACTIONS</u>		
1. Monitor system operation per SOP-0034, MSIV Sealing System (Positive Leakage Control) and Penetration Valve Leakage Control.		
<u>POSSIBLE CAUSES</u>		
1. Air supply pressure above low pressure setpoint and Rx pressure below setpoint.		
<u>REFERENCES</u>		
1. 1.ILMSI.013 2. 1.ILMSI.021 3. GE 793E922AA		

ALARM NO. 2439	PERMISSIVE TO OPERATE OUTBOARD MSIV PLCS	H13-P601/17A/G06
<u>INITIATING DEVICES</u>		<u>SETPOINTS</u>
1. E33-ESN621 and E33-PISN622		1. ≥ 45 psig air and ≤ 25 psig steam
<u>AUTOMATIC ACTIONS</u>		
1. None		
<u>OPERATOR ACTIONS</u>		
1. Manually initiate system per SOP-0034, MSIV Sealing System (Positive Leakage Control) and Penetration Valve Leakage Control if required.		
<u>LONG TERM ACTIONS</u>		
1. Monitor system operation per SOP-0034, MSIV Sealing System (Positive Leakage Control) and Penetration Valve Leakage Control.		
<u>POSSIBLE CAUSES</u>		
1. Air supply pressure above low pressure setpoint and Rx pressure below setpoint.		
<u>REFERENCES</u>		
1. 1.ILMSI.016 2. 1.ILMSI.023 3. GE 793E922AA		

River Bend Station NRC License RO and SRO Written Exam Questions and Proctor Responses.

TIME	Q No.	Candidate's Question	Proctor Response
0829	6	Is initial RPV pressure 950 psig or should I assume it to be 1055 psig?	You will have to answer the question with the information provided.
0912	86	Should I assume DPT-126 in ARP is transmitter that feeds LMS-TR127 in the question?	You will have to answer the question with the information provided.
1003	41	Are the units for Drywell Pressure given in "psig" the same as "psid" in the other exam questions?	Yes, should be psid. Put out to all candidates.
1005	81	Is CMFLCPR the same as MCPR on COLR Figures provided as Handouts?	You will have to answer the question with the information provided.
1027	63	Are the units for Drywell Pressure given in "psig" the same as "psid" in the other exam questions?	Yes, should be psid. Put out to all candidates.
1028	60	Are the names for the three valves in the question the actual NOUN names for the valves?	Yes, they are the NOUN names for the valves. Put out to all candidates.
1030	47	Is the action required in (2) that which should be taken for the final state in (1)?	Yes, that is what the question asks. Put out to all candidates.
1107	21	Is the action immediate or long term to reach a stable state?	You will have to answer the question with the information provided.
1119	41	The question conditions state that only RHR A is running and aligned to inject into RPV. Does this mean no other LP ECCS are available to inject?	You will have to answer the question with the information provided.

TIME	Q No.	Candidate's Question	Proctor Response
1238	13	Does choice B mean for any reason or is it specific to the stem condition?	You will have to answer the question with the information provided.
1239	36	Should I know or be concerned about the value beyond the bottom of the core where all the plots end?	You will have to answer the question with the information provided.
1248	56	Does choice A mean only one bypass valve?	You will have to answer the question with the information provided.
1301	40	Is choice D to be assumed in addition to other subsequent actions?	You will have to answer the question with the information provided.
1327	67	With the plant in normal operation, aren't some systems in shutdown or standby lineup while others are operating?	You will have to answer the question with the information provided.