Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	300000 K1.02	
Importance Rating	2.7	

Knowledge of the connections and / or cause effect relationships between INSTRUMENT AIR SYSTEM and the following: Service air

Proposed Question: RO Question # 1

The following conditions exist at NMP2:

- Operating at 100% power
- Station air compressor maintenance is in progress
- I&C report they have inadvertently stopped all running air compressors.
- 2IAS-C3A, Instrument Air Compressor 3A, is eventually started and instrument air pressure, as read in the Control Room, is steady at and has not lowered below 63 psig

Which one of the following indications exists in the Control Room for these conditions?

A. Control rods are stationary and the inboard MSIVs are in the intermediate position.

B. Service air isolation, 2IAS-AOV171 has opened and the outboard MSIVs are in the intermediate position.

C. Control rods are drifting into the core and the inboard MSIVs are in the intermediate position.

D. Service air isolation, 2IAS-AOV171 has closed and the outboard MSIVs are in the intermediate position.

Proposed Answer: D

Explanation (Optional):

A. Incorrect – The inboard MSIVs are not affected by a loss of air they are supplied by drywell nitrogen.

B. Incorrect - Service air isolation will close (85 psig).

C. Incorrect – The control rods will not drift until IA pressure is less than 60 psig. The inboard MSIVs are not affected by a loss of air they are supplied by drywell nitrogen.

D. Correct - Service air isolation will close (85 psig) and MSIVs will be drifting closed (74 psig).

Technical Reference(s): N2-SOP-19, Sect. 2.0 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 4

55.43

Secondary coolant and auxiliary systems that affect the facility.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	209002 K1.02	
Importance Rating	3.5	

Knowledge of the physical connections and/or cause- effect relationships between HIGH PRESSURE CORE SPRAY SYSTEM (HPCS) and the following: Suppression Pool: BWR-5,6

Proposed Question: RO Question # 2

N2-EOP-PC, Primary Containment Control, has been entered due to high Suppression Pool level.

Which one of the following describes the current suction source for the RCIC and High Pressure Core Spray (CSH) systems?

	RCIC SUCTION	CSH SUCTION
A.	CST	Suppression Pool
B.	CST	CST
C.	Suppression Pool	Suppression Pool
D.	Suppression Pool	CST

Proposed Answer: A

Explanation (Optional):

A. Correct - SP high level entry to N2-EOP-PC is > HPCS swap setpoint from CST to SP

B. Incorrect - CSH swaps to SP

C. Incorrect - RCIC swap occurs only on low CST level

D. Incorrect - RCIC swap occurs only on low CST level

Technical Reference(s): N2-OP-33, Sect B. Pg 3
N2-OP-35, Sect B. Pg 5 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # X
Modified Bank # (Note changes or attach parent)
New

Question History: Last NRC Exam:

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

10 CFR Part 55 Content: 55.41 7
55.43

Design, components, and function of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	215004 K2.01	
Importance Rating	2.6	

Knowledge of electrical power supplies to the following: SRM channels/detectors

Proposed Question: RO Question # 3

The plant is at 100% power. The following events occur:

- A reactor scram occurs.
- 24 VDC, 2BWS-PNL300A, trips off due to a ground fault and cannot be restored.

Which one of the following identifies the effect on Neutron Monitoring due to the power loss?

Loss of power to ...

A. all the SRMs detectors only.

B. half the SRMs detectors AND their drives only.

C. half the SRMs detectors and IRMs detectors only.

D. half the SRMs detectors and IRMs detectors AND their drives.

Proposed Answer: C

Explanation (Optional):

A. Incorrect - 2BWS-PNL300A only supplies half the SRMs and IRMs.

B. Incorrect - 2BWS-PNL300A only supplies half the SRMs and IRMs. 2NJS-US2 (600 VAC) supplies power to IRM & SRM detector drive motors.

C. Correct - 24 VDC, 2BWS-PNL300A supplies power to SRMs A and C and IRMs A, C, E, and G. The detector drives are powered by 125 VAC.

D. Incorrect - 2NJS-US2 (600 VAC) supplies power to IRM & SRM detector drive motors.

Technical Reference(s): SOP-4, Attachment 1, pg 11 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7

55.43

Design, components, and function of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	203000 K2.03	
Importance Rating	2.7	

Knowledge of electrical power supplies to the following: Initiation logic

Proposed Question: RO Question # 4

The plant is operating at rated power with the following:

- The breaker for circuit 2RHSB32 on 2BYS*PNL201B has tripped.
- System Status Light "RHR B Relay Logic power Fail" is lit.
- Annunciator 601601 "RHR C SYSTEM INOPERABLE" alarms.
- Annunciator 601631 "RHR B SYSTEM INOPERABLE" alarms.

Which one of the following describes the status of the RHR B and C pumps?

A. RHR B and C pumps will auto start, but only after depressing the Manual Initiation pushbutton.

B. RHR B and RHR C pumps are capable of auto starting

C. RHR B and C pumps can be manually started

D. RHR B and RHR C will not start

Proposed Answer: C

Explanation (Optional):

A. Incorrect - Not necessary to depress the Manual Initiation pushbutton.

B. Incorrect - Cannot be automatically started.

C. Correct - The loss of 2BYS*PNL201B causes a loss of the Div 2 RHS Auto/Manual initiations as discussed in N2-SOP-04 Attachment 3. Loss of Div II RHS Auto/Manual Initiations. Annunciator 601601, RHR C SYSTEM INOPERABLE, and Annunciator 601631, RHR B SYSTEM INOPERABLE, in alarm

D. Incorrect - RHR B and C pumps can be manually started

Technical Reference(s): N2-SOP-04, Att 3, pg 27 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Reactor sys ID: N2-205000-RBO-11-Q01

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7

55.43

Design, components, and function of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	2	
	Group #	1	
	K/A #	209001 K3 01	
	Importance Rating	3.8	

Knowledge of the effect that a loss or malfunction of the LOW PRESSURE CORE SPRAY SYSTEM will have on following: Reactor water level

Proposed Question: RO Question # 5

A LOCA has occurred with the following:

- Reactor Pressure is 385 psig and steady
- Reactor Water level is +65 inches and lowering
- Low Pressure Core Spray (CSL) initiation logic has failed to initiate.
- No other injection systems are injecting
- CSL is manually started for injection.
- The RO takes the CSL injection valve control switch to OPEN and the valve begins to open. The RO releases the control switch when the following are received:

  - Annunciator 601416 LPCS SYSTEM MOTOR OVERLOAD
  - Computer point CSLTC04 LPCS INJ MOV104 MOT

Which one of the following identifies the response of the CSL Injection Valve and reactor water level?

The CSL injection valve ...

A. will automatically open and restore reactor water level when water level lowers to 17.8 inches.

B. will automatically open and restore reactor water level when the CSL to Reactor ΔP lowers to 88 psid.

C. stops at its current position and the breaker thermal overloads must be reset to recover reactor water level.

D. stops at its current position and must be manually opened from the control room to recover reactor water level.

Proposed Answer: D

Explanation (Optional):

A. Incorrect - Will not automatically open.

B. Incorrect - Will not automatically open.

C. Incorrect - Is now throttleable.

D. Correct - Initiation logic is failed so the valve does not continue to fully open and stops in current position, but is now throttleable.

Technical Reference(s): N2-ARP-01, 601416 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Reactor sys, # 228

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7

55.43

Design, components, and function of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	218000 K3.02	
Importance Rating	4.5	

Knowledge of the effect that a loss or malfunction of the AUTOMATIC DEPRESSURIZATION SYSTEM will have on following: Ability to rapidly depressurize the reactor

Proposed Question: RO Question # 6

A plant accident has required entry into N2-RPV-C2, RPV Blowdown.

- Division I of ECCS failed to initiate
- Division II ECCS pumps have tripped.

Which one of the following is required to blowdown the RPV?

A. Arm and depress all ADS Initiation pushbuttons at the 601 Panel.

B. The ADS valves are unavailable. Use N2-EOP-6, Attachment 18, Depressurizing the RPV.

C. Place the seven ADS "A" and/or "B" solenoid keylock switches at the 628 and 631 Panels to open.

D. The ADS valves are unavailable. Use Alternate RPV Blowdown systems listed in N2-EOP-C2, RPV Blowdown.

Proposed Answer: C

Explanation (Optional):

A. Incorrect – The ADS Initiation pushbuttons at the 601 Panel will not open the ADS valves if the ADS system logic has failed to detect any Low Pressure ECCS Pumps running.

B. Incorrect – The ADS valves are available.

C. Correct – Per the EOP Basis, If no low-pressure ECCS pumps are running when it is decided to initiate ADS, or one or more SRVs are stuck open, it is expected that the operator will proceed to the back-panel and manually open the ADS valves.

D. Incorrect – The ADS valves are available.

Technical Reference(s): EOP Basis, pg 9-13 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 6

55.43

Design, components, and function of reactivity control mechanisms and instrumentation.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	212000 K4.03	
Importance Rating	3.0	

Knowledge of REACTOR PROTECTION SYSTEM design feature(s) and/or interlocks which provide for the following: The prevention of supplying power to a given RPS bus from multiple sources simultaneously

Proposed Question: RO Question # 7

The plant is operating at 100% power, with the following:

- All electrical power supplies are available for RPS
- Power Source Selector Switch is placed on the ALT B position

Which one of the following describes the effect on RPS B Trip System and B scram pilot valves?

The Trip System ...

A. and scram pilot valves remain energized.

B. remains energized but scram pilot solenoids de-energize.

C. de-energizes but the scram pilot valves remain energized.

D. de-energizes and the scram pilot valves de-energize.

Proposed Answer: B

Explanation (Optional):

A. Incorrect - The scram pilot valve B solenoids de-energize, because the Power Source Selector Switch is break before make.

B. Correct – Only the scram pilot valve B solenoids de-energize, because the Power Source Selector Switch is break before make and is used to transfer pilot valve power to

the alternate supply. Trip System logic power is supplied by the UPS3's and is not effected by use of the PSSS.

C. Incorrect - The scram pilot valve B solenoids de-energize, because the Power Source Selector Switch is break before make.

D. Incorrect - The UPS3's provide power to the RPS A and B logics NOT the scram solenoids. Power is not lost to the logic..

Technical Reference(s): N2-OP-97 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Instr sys, ID: N2-212000-RBO-05-Q02

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 6

55.43

Design, components, and function of reactivity control mechanisms and instrumentation.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	263000 K4.02	
Importance Rating	3.1	

Knowledge of D.C. ELECTRICAL DISTRIBUTION design feature(s) and/or interlocks which provide for the following: Breaker interlocks, permissives, bypasses and cross ties: Plant-Specific

Proposed Question: RO Question # 8

The plant is operating at 100% power, with the following:

- Residual Heat Removal 2RHS*P1A is operating in Suppression Pool Cooling.
- Fuses blow resulting in a loss of DC control power to the pump breaker.
- An electrical fault occurs on the 2RHS*P1A pump motor.

With no operator action, which one of the following describes (1) the resulting positions of the P1A RHS pump breaker AND (2) the position of the supply breaker feeding the divisional bus?

A. (1) OPEN
(2) OPEN

B. (1) OPEN
(2) CLOSED

C. (1) CLOSED
(2) OPEN

D. (1) CLOSED
(2) CLOSED

Proposed Answer: C

Explanation (Optional):

A. Incorrect - The P1A RHS pump breaker is closed.

B. Incorrect - The P1A RHS pump breaker is closed the supply breaker feeding the divisional bus is open.

C. Correct - loss of DC control power will disable fault trips (trip coil de-energized) and will result in a fault trip of the bus (2ENS SWG101) feeder breaker.

D. Incorrect - The supply breaker feeding the divisional bus is open.

Technical Reference(s): N2-OP-74A (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Elect sys, ID: N2-263000-RBO-08-Q06

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7

55.43

Design, components, and function of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	239002 K5.02	
Importance Rating	3.7	

Knowledge of the operational implications of the following concepts as they apply to RELIEF/SAFETY VALVES : Safety function of SRV operation

Proposed Question: RO Question # 9

The plant was operating at 100% power when ADS SRV, 2MSS*PSV121 failed open. The crew entered N2-SOP-34, Stuck Open Safety Relief Valve and took all the appropriate actions. After removing the "C" solenoid fuse 2MSS*PSV121 closed.

Which one of the following correctly states the operational status of this SRV?

2MSS*PSV121 will ...

A. NOT open under any conditions.

B. will function as a safety valve, but not as an ADS valve.

C. will function as a safety valve and automatically open on an ADS initiation, but not with the key lock switch on PNL601.

D. will function as a safety valve and automatically open on an ADS initiation and with the key lock switch on PNL601.

Proposed Answer: C

Explanation (Optional):

A. Incorrect - The safety and ADS function are still available

B. Incorrect - The safety function of the SRV is operable and the ADS is still operable using the A and B solenoids.

C. Correct - The safety function of the SRV is operable and the ADS is still operable using the A and B solenoids. Removing the C solenoid prevents operation using the key lock

switch.

D. Incorrect - Removing the C solenoid prevents operation using the key lock switch.

Technical Reference(s): N1-SOP-34, Sect. 5.4 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 3

55.43

Mechanical components and design features of reactor primary system.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	217000 K5.02	
Importance Rating	3.1	

Knowledge of the operational implications of the following concepts as they apply to REACTOR CORE ISOLATION COOLING SYSTEM (RCIC): Flow indication

Proposed Question: RO Question # 10

A reactor scram and Group I Isolation has occurred, with the following:

- RPV pressure is 980 psig and stable
- RCIC maintaining RPV level at 185 inches
- RCIC controller is in AUTO with speed at 4200 rpm
- RCIC flow is 450 gpm
- An SRV is opened to lower RPV pressure to 800 psig.

How are the following parameters affected after the RCIC controls respond to the lower pressure?

	Flow	**Turbine Speed**
A.	Unchanged	Raise
B.	Unchanged	Lower
C.	Changes	Raise
D.	Changes	Lower

Proposed Answer: B

Explanation (Optional):

A. Incorrect - With the flow controller in auto turbine speed will lower and flow will remain constant.

B. Correct - With the flow controller in auto turbine speed will lower and flow will remain constant. With decreasing RPV pressure injection rate will remain the same as the controller reduces speed because of lowered resistance to flow.

C. Incorrect - With the flow controller in auto turbine speed will lower and flow will remain constant.

D. Incorrect - With the flow controller in auto turbine speed will lower and flow will remain constant.

Technical Reference(s): N2-OP-35, Sect B, pg 7 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # X, ID: N2-217000-RBO-10-Q01, Rx Sys #352

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	259002 K6.05	
Importance Rating	3.5	

Knowledge of the effect that a loss or malfunction of the following will have on the REACTOR WATER LEVEL CONTROL SYSTEM : Reactor water level input

Proposed Question: RO Question # 11

Unit 2 is operating at 100% power with the following:

- Reactor Water Level Control is in AUTO.
- Reactor Water Level Switch is selected to "A".
- A variable leg leak on the Narrow Range level "A" detector occurs.

Which one of the following describes the water level control system response and plant response to the failure?

A. FWLC system raises feed flow; Main Turbine and Reactor Feed Pumps trip at Level 8, reactor scrams.

B. FWLC system raises feed flow initially, and then returns to setpoint when "B" level channel automatically takes control.

C. FWLC system lowers feed flow; reactor scrams on Level 3, level then rises rapidly until a Level 8 Reactor Feed Pump trip.

D. FWLC system lowers feed flow initially, and then returns to setpoint when system swaps to single-element control.

Proposed Answer: A

Explanation (Optional):

A. Correct - A leak in the variable leg will appear as a low reactor water level. If the reactor level signal circuit sees a low level it responds by increasing feed flow. Since feed flow is greater than steam flow, the reactor water level will increase to the reactor high level

trip as sensed by the two remaining narrow range level transmitters. When 2 of 3 narrow range transmitters exceed Level 8 a turbine trip and reactor feedpump trip will result.

B. Incorrect - B level will not take control

C. Incorrect - Level rises

D. Incorrect - Level rises

Technical Reference(s): Feedwater Control Student Text, pg 87 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Feed sys, ID: N2-259001-RBC-05-Q04

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7

55.43

Design, components, and function of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	264000 K6.07	
Importance Rating	3.8	

Knowledge of the effect that a loss or malfunction of the following will have on the EMERGENCY GENERATORS (DIESEL/JET) : Cooling water system

Proposed Question: RO Question # 12

The plant is operating at 100% power with the following:

- A complete loss of off-site power has occurred.
- Div I Diesel starts but does NOT reenergize its bus due to a bus fault.
- Div II and III Diesels start and re-energize their respective buses.

Given these conditions which one of the following is required?

A. Trip the Div I Diesel.

B. Trip the Div III Diesel.

C. Trip the Div I Diesel and Div II Diesel.

D. Trip the Div II Diesel and Div III Diesel.

Proposed Answer: A

Explanation (Optional):

A. A is correct, based on the ARP 852126, SW Flow Low, if the Division 1 EDG can not reenergize it's respective bus, then a loss of service water has occurred for that EDG. The OP-100A, directs shutting down the affected EDG following the loss of SW to prevent overheating the EDG. The Division III EDG can be supplied by either Division therefore it will not overheat. Division II will be supplied by the SW pump in it's respective division.

B. Incorrect - The Division III EDG can be supplied by either Division therefore it will not

overheat.

C. Incorrect - The Division III EDG can be supplied by either Division therefore it will not overheat.

D. Incorrect - The Division III EDG can be supplied by either Division therefore it will not overheat. Division II will be supplied by the SW pump in it's respective division.

Technical Reference(s): ARP 852126
OP-100A (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #
Modified Bank # (Note changes or attach parent)
New X

Question History: Last NRC Exam:

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

10 CFR Part 55 Content: 55.41 10
55.43

Administrative, normal, abnormal, and emergency operating procedures for the facility.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	400000 A1.01	
Importance Rating	2.8	

Ability to predict and / or monitor changes in parameters associated with operating the CCWS controls including: CCW flow rate

Proposed Question: RO Question # 13

Procedure N2-OP-13, Reactor Building Closed Loop Cooling Water (CCP), contains a caution that states when starting the first CCP booster pump, the CCP booster pump discharge valve "shall be throttled at a booster pump differential pressure of > 42 psid until additional pumps can be started."

Failure to throttle the discharge valve will ...

A. over flow the CCP surge tank.

B. cause CCP booster pump to go into runout.

C. over pressurize the CCP main pump suction.

D. cause CCP main pump to windmill and trip during startup.

Proposed Answer: B

Explanation (Optional):

A. Incorrect - This could happen if the pump discharge isolation valves, V103 A, B, C were opened too quickly.

B. Correct - Per Caution in Sect. E.1 of OP-13, To avoid pump runout, 2CCP-V1032A (B,C) shall be throttled at a booster pump differential pressure of > 42 psid until additional pumps can be started.

C. Incorrect - Not a concern

D. Incorrect - Not a concern

Technical Reference(s): N2-OP-13, Sect E.1 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Water sys, ID: N2-208000-RBO-09-Q02

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 4

55.43

Secondary coolant and auxiliary systems that affect the facility.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	261000 A1.07	
Importance Rating	2.8	

Ability to predict and/or monitor changes in parameters associated with operating the STANDBY GAS TREATMENT SYSTEM controls including: SBGT train temperature

Proposed Question: RO Question # 14

The plant was operating at rated power when a High Drywell scram occurred with the following:

- GTS Train "B" is running following an auto start
- GTS Train 'A' automatically started and was placed in standby with its control switch placed in auto.

Which one of the following is the GTS system status following a Hi Hi Charcoal Adsorber Temperature with NO operator actions?

	Train A	**Train B**
A.	STBY	Running
B.	Running	STBY
C.	Running	Running
D.	STBY	STBY

Proposed Answer: C

Explanation (Optional):

A. Incorrect - A, B, D are wrong for the same reason.

B. Incorrect - A, B, D are wrong for the same reason

C. Correct - Train A will receive an auto-restart signal when 871109 alarms on Hi-Hi Temp

D. Incorrect - A, B, D are wrong for the same reason. High Charcoal temp is not a train trip signal thus the 'B' train will continue to run. High Charcoal temp is a auto start signal for the opposite train if that train when secured was left in the auto start line up

Technical Reference(s): N2-OP-61B (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Cont Sys, ID: N2-261000-RBO-05-Q03

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7

55.43

Design, components, and function of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	223002 A2.10	
Importance Rating	3.9	

Ability to (a) predict the impacts of the following on the PRIMARY CONTAINMENT ISOLATION SYSTEM/NUCLEAR STEAM SUPPLY SHUT-OFF ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Loss of coolant accidents

Proposed Question: RO Question # 15

Following a loss of coolant accident in the Drywell the following conditions exist:

- Drywell pressure is 2.05 psig and steady
- Drywell temperature is 218°F and steady
- Reactor water level is 125 inches and steady

Which one of the following is (1) the status of Drywell (DW) Cooling, AND (2) depending on that status what actions are required to keep it in service or return it to service?

A. (1) The DW Unit Coolers are still operating with CCP Flow.
(2) To prevent them tripping on rising DW pressure or lowering level place the Unit Cooler Fans GR1 and GR2 LOCA Override switches to OVERRIDE.

B. (1) CCP Flow is still available but the DW Unit Coolers have tripped
(2) To restore DW Cooling place the Unit Cooler Fans GR1 and GR2 LOCA Override switches to OVERRIDE and start the Drywell Unit Coolers.

C. (1) The DW Unit Coolers are still operating but CCP has isolated.
(2) To restore CCP flow place the Drywell Unit cooler WTR Div I and II LOCA Override switches to OVERRIDE and open the CCP cooling water isolation valves.

D. (1) CCP Flow has isolated to DW Unit Coolers and the DW Unit Cooler Fans have tripped.
(2) To restore DW Cooling place the Drywell Unit cooler WTR Div I and II LOCA Override switches to OVERRIDE open the CCP cooling water isolation valves then place the Unit Cooler Fans GR1 and GR2 LOCA Override switches to the OVERRIDE and start the Drywell Unit Coolers.

Proposed Answer: D

Explanation (Optional):

A. Incorrect - The CCP valves for the DW Cooling and the DW Unit Coolers isolate and trip on a Group 8 isolation caused by RPV water level <108.8 inches and/or high DW pressure 1.68 psig.

B. Incorrect - The CCP valves for the DW Cooling and the DW Unit Coolers isolate and trip on a Group 8 isolation caused by RPV water level <108.8 inches and/or high DW pressure 1.68 psig.

C. Incorrect - The CCP valves for the DW Cooling and the DW Unit Coolers isolate and trip on a Group 8 isolation caused by RPV water level <108.8 inches and/or high DW pressure 1.68 psig.

D. Correct - The CCP valves for the DW Cooling and the DW Unit Coolers isolate and trip on a Group 8 isolation caused by RPV water level <108.8 inches and/or high DW pressure 1.68 psig. To recover the system (provided DW temp is <250F) The DW Unit Coolers are still operating but CCP has isolated To restore CCP flow place the Drywell Unit cooler WTR Div I and II LOCA Override switches to OVERRIDE and open the CCP cooling water isolation valves .

Technical Reference(s): EOP-6 Att.24 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10

55.43

Administrative, normal, abnormal, and emergency operating procedures for the facility.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	262001 A2.07	
Importance Rating	3.0	

Ability to (a) predict the impacts of the following on the A.C. ELECTRICAL DISTRIBUTION ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Energizing a dead bus

Proposed Question: RO Question # 16

Following a station blackout the following conditions exist:

- Power has been restored to the Reserve Station Service Transformer 1A.
- The local lockout on 2ENS*SWG101 have been reset.

In accordance with N2-SOP-3, Loss of AC Power, which one of the following actions is required to restore power to the emergency switchgear 2ENS*SWG101?

A. Close 16-2, Supply 4.16 Kv Emerg Swgr 101 and 102, then reset the lockout for breaker 101-13, Normal Off-Site Supply, place the SYNC switch to ON and close 101-13.

B. Close 17-2, Supply 4.16 Kv Emerg Swgr 102 and 103, then reset the lockout for breaker 103-4, Normal Off-Site Supply,and place the SYNC switch to ON and close 103-4.

C. Close 16-2, Supply 4.16 Kv Emerg Swgr 101 and 102, then reset the lockout for breaker 101-13, Normal Off-Site Supply, and close 101-13. The SYNC switch is NOT required.

D. Close 17-2, Supply 4.16 Kv Emerg Swgr 102 and 103, then reset the lockout for breaker 103-4, and close 103-4, Normal Off-Site Supply. The SYNC switch is NOT required.

Proposed Answer: A

Explanation (Optional):

A. Correct - IAW Attachment 4 of N2-SOP-3, Step 4.2

B. Incorrect - This line up is from Reserve Station Service Transformer 1B.

C. Incorrect - The SYNC switch must be placed in ON.

D. Incorrect - This line up is from Reserve Station Service Transformer 1B and the SYNC switch must be placed in ON.

Technical Reference(s): N2-SOP-03, Att. 4, Sect. 4.2 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10

55.43

Administrative, normal, abnormal, and emergency operating procedures for the facility.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	262002 A3.01	
Importance Rating	2.8	

Ability to monitor automatic operations of the UNINTERRUPTABLE POWER SUPPLY (A.C./D.C.) including: Transfer from preferred to alternate source

Proposed Question: RO Question # 17

Which one of the following identifies the response of uninterruptible power supply 2VBA*UPS2A if the normal AC feed is lost?

A. Transfer switch 2VBA*TRS2A automatically swaps to 2VBA*UPS2C.

B. The Static switch automatically transfers to 2LAC*PNL100A.

C. UPS2A swaps to 2BYS*SWG002A.

D. The normal AC swaps to 2NJS-US4 via 2VBB-TRS1.

Proposed Answer: C

Explanation (Optional):

A. Incorrect - UPS2A swaps to 2BYS*SWG002A.

B. Incorrect - UPS2A swaps to 2BYS*SWG002A.

C. Correct - On loss of normal AC UPS2A will transfer to DC via BYS*SWG002A

D. Incorrect - UPS2A swaps to 2BYS*SWG002A.

Technical Reference(s): N2-OP-71D, Sect. 37.0 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # ID: N2-262002-RBO08-Q01

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7

55.43

Design, components, and function of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	205000 A3.01	
Importance Rating	3.2	

Ability to monitor automatic operations of the SHUTDOWN COOLING SYSTEM (RHR SHUTDOWN COOLING MODE) including: Valve operation

Proposed Question: RO Question # 18

The reactor is in Mode 4 with the following:

- RHR Loop "A" is in Shutdown Cooling
- RHR Loop "B" is in Suppression Pool Cooling
- A valid RPV Level 1 water level condition occurs

Which of the following describes the RHR system automatic response with no Operator actions?

A. RHR Loop A continues to operate in shutdown cooling and RHR B pumps trips.

B. RHR Loop A continues to operate in shutdown cooling and RHR Loop B realigns to the injection mode.

C. RHR pump A trips. RHR Loop B realigns to the injection mode and the RHR B pump continues to run.

D. RHR A and B pumps trip. RHR Loop B realigns to the injection mode and the RHR B pump restarts.

Proposed Answer: C

Explanation (Optional):

A. Incorrect - A RPV level 159.3 will cause a group 5 isolation. A group 5 isolation will cause the RHR Shutdown cooling valves to close. Without a suction source the "A" pump will trip.

B. Incorrect - A RPV level 159.3 will cause a group 5 isolation. A group 5 isolation will cause the RHR Shutdown cooling valves to close. Without a suction source the "A" pump will trip.

C. Correct - A RPV level 159.3 will cause a group 5 isolation. A group 5 isolation will cause the RHR Shutdown cooling valves to close. Without a suction source the "A" pump will trip. The 2RHS*MOV38B will go shut on a LOCA signal (Level 1) and the "B" RHR pump will continue to run and will inject when the 2RHS*MOV24B permissives are met.

D. Incorrect - The 2RHS*MOV38B will go shut on a LOCA signal (Level 1) and the "B" RHR pump will continue to run and will inject when the 2RHS*MOV24B permissives are met.

Technical Reference(s): N2-OP-31 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # reactor plant sys ID: N2-205000-RBO-05-Q01

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 3

55.43

Mechanical components and design features of reactor primary system.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	215005 A4.05	
Importance Rating	3.4	

Ability to manually operate and/or monitor in the control room: Trip bypasses

Proposed Question: RO Question # 19

The reactor is operating at 100% power, with the following:

- APRM #2 is bypassed due to a failure upscale.
- The BYPASS light for APRM #3 is also illuminated.
- The APRM chassis at P608 reveals BYP is displayed in inverse video for both APRM #2 and #3.
- Then APRM #4 fails upscale.

Which one of the following describes the effect of these conditions on the APRM trip system?

A. Voter modules are placed in one out of two trip logic.

B. Rod block only due to a Critical Self Test Fault.

C. Half trip of all Voter logic modules only.

D. Full trip of all Voters logic modules.

Proposed Answer: D

Explanation (Optional):

A. Incorrect - The logic reverts back to a 2/4 logic.

B. Incorrect - When APRM #4 subsequently fails, this fulfills the logic for the 2/4 voters and a full reactor scram signal is generated.

C. Incorrect - When APRM #4 subsequently fails, this fulfills the logic for the 2/4 voters and a full reactor scram signal is generated.

D. Correct - With two APRMs indicating bypass, the logic reverts back to a 2/4 logic. APRM 2 already has a trip signal in. When APRM #4 subsequently fails, this fulfills the logic for the 2/4 voters and a full reactor scram signal is generated.

Technical Reference(s): N2-OP-92, SECT B (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # #127 Instrument bank

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 6

55.43

Design, components, and function of reactivity control mechanisms and instrumentation.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	215003 A4.07	
Importance Rating	3.6	

Ability to manually operate and/or monitor in the control room: Verification of proper functioning/ operability (IRMs)

Proposed Question: RO Question # 20

The plant is being started up after a forced outage, with the following:

- All IRMs are on Range 3
- IRM A, B, G, and H indicate 13
- IRM C, D, F, and E indicate 25
- Then the Reactor Operator mistakenly ranges IRM H to Range 2.

Which one of the following identifies the effect, if any, on RPS trips and IRM rod blocks?

A. No RPS trip and no rod block.

B. No RPS trips and a rod block.

C. RPS A trip and a rod block.

D. RPS B trip and a rod block.

Proposed Answer: D

Explanation (Optional):

A. Incorrect - Rg 4 = 130 on Rg 2 which is above the UPSC 120 scram setpoint and a rod block occur.

B. Incorrect - Rg 4 = 130 on Rg 2 which is above the UPSC 120 scram setpoint and a rod block occur.

C. Incorrect - Rg 4 = 130 on Rg 2 which is above the UPSC 120 scram setpoint and a rod

block occur.

D. Correct - IRM H is associated with B2 channel of RPS. 13 on Rg 3 = 13 on Rg 4 = 130 on Rg 2 which is above the UPSC 120 scram setpoint and a rod block occur.

Technical Reference(s): N2-OP-92 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Instrumentation sys, ID: N2-215002-RBO-05-Q06

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 6

55.43

Design, components, and function of reactivity control mechanisms and instrumentation.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	211000 2.2.12	
Importance Rating	3.7	

Equipment Control: Knowledge of surveillance procedures. (SLC)

Proposed Question: RO Question # 21

The Standby Liquid Control System (SLS) quarterly operability test on SLS Pump "A" is about to be performed.

Which ONE of the following identifies how the Reactor Water Cleanup System (WCS) isolation is avoided during this test?

A. WCS isolation bypass switches are placed in the BYPASS position prior to starting the SLS pump.

B. WCS isolation signal is bypassed when using the SLS pump TEST switch to start the SLS pump.

C. WCS system is shutdown and containment isolation valves closed prior to starting the SLS pump.

D. WCS containment isolation valve power supply breakers are opened prior to starting the SLS pump.

Proposed Answer: B

Explanation (Optional):

A. Incorrect - There are no bypass switches for this situation

B. Correct - Use of the TEST Switch for either pump bypasses the interlocks that Open the MOV1A/B valves, fire the squibs, or isolate the respective divisional WCS isolation valve. This allows operation of the pump to recirculate the contents of the test tank for surveillance testing.

C. Incorrect - WCS remains in operation

D. Incorrect - No breakers are opened.

Technical Reference(s): N2-OP-36A, N2-OSP-SLS-Q001 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Reactor sys, ID: N2-211000-RBO-05-Q04

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7

55.43

Design, components, and function of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	262002 2.1.30	
Importance Rating	4.4	

Conduct of Operations: Ability to locate and operate components, including local controls.

Proposed Question: RO Question # 22

2VBB-UPS1B is in service with the TRANSFER CONTROL SWITCH in MANUAL RESTART when a momentary overload occurs.

Which one of the following describes (1) how 2VBB-UPS1B loads are powered AFTER this event AND (2) what actions are required to restore a normal lineup per N2-OP-71D?

A. (1) 2NJS-US6
(2) Manually transfer to the normal supply at panel 2VBB-PNL301.

B. (1) 2NJS-US4
(2) Manually transfer to the normal supply at the UPS, 2VBB-UPS1B.

C. (1) 2NJS-US6
(2) Place the TRANSFER CONTROL SWITCH at 2VBB-UPS1B to AUTO RESTART.

D. (1) 2NJS-US4
(2) Place the TRANSFER CONTROL SWITCH at 2VBB-PNL301 to AUTO RESTART.

Proposed Answer: C

Explanation (Optional):

A. Incorrect - The transfer switch is located at UPS 2VBB-UPS1B.

B. Incorrect - The normal supply is 2NJS-US6, not 2VBB-PNL301.

C. Correct - When the transfer control switch in manual restart, once the UPS transfers to maintenance it will remain there until manually transferred back to the normal AC. The temporary overload condition would cause the UPS to transfer to maintenance and it would remain there after the condition cleared because the transfer control switch is in

manual restart. The UPS must be manually transferred back to its normal supply 2NJS-US6 at the UPS.

D. Incorrect - The UPS normal supply is 2NJS-US6 and the UPS must be manually transferred back to its normal supply at the UPS.

Technical Reference(s): N2-SOP-71, Table 1
N2-OP-71D, Sect. E.2 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7

55.43

Design, components, and function of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	211000 2.2.44	
Importance Rating	4.2	

Equipment Control: Ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives affect plant and system conditions.

Proposed Question: RO Question # 23

The "A" Standby Liquid Control pump control switch is taken to the 'PUMP A RUN' position. Which one of the following describes the SLC and RWCU System response?

Suction Valve, 2SLS*MOV1A, receives an open signal, ...

A. Squib Valve 2SLS*VEX3A fires, RWCU Outboard Isolation valve receives a close signal, 2SLS*P1A starts when suction valve is full open.

B. Squib Valve 2SLS*VEX3A fires, RWCU Inboard Isolation valve receives a close signal, 2SLS*P1A starts when suction valve is full open.

C. Squib Valves 2SLS*VEX3A and 2SLS*VEX3B fire, RWCU Outboard Isolation valve closes, 2SLS*P1A starts when suction valve full open.

D. Squib Valves 2SLS*VEX3A and 2SLS*VEX3B fire, RWCU Inboard Isolation valve closes, 2SLS*P1A starts when suction valve full open.

Proposed Answer: A

Explanation (Optional):

A. Correct - The "A" squib fire, RWCU isolates and the "A" pump starts when the suction valve is fully open.

B. Incorrect- The Outboard RWCU isolation valve closes (Division I)

C. Incorrect- Only the valve divisionally associated with the started pump receives a signal to fire.

D. Incorrect- Only the valve divisionally associated with the started pump receives a signal to fire. The Outboard RWCU isolation valve closes (Division I)

Technical Reference(s): N2-OP-36A, Sect H.1.0 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Reactor Sys, #299

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 5

55.43

Facility operating characteristics during steady state and transient conditions, including coolant chemistry, causes and effects of temperature, pressure and reactivity changes, effects of load changes, and operating limitations and reasons for these operating characteristics.

Comments:

Revised question and explanations 6-22-09

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	212000 A1.01	
Importance Rating	2.8	

Ability to predict and/or monitor changes in parameters associated with operating the REACTOR PROTECTION SYSTEM controls including: RPS motor-generator output voltage

Proposed Question: RO Question # 24

The plant is operating at 100% power when RPS Bus A power supply is shifted from 2RPM-MG1A to its alternate power supply using the Power Source Selector Switch.

Which one of the following identifies the condition of the RPS Pilot Scram Solenoids after the shift and what operator actions, if any, are required to reset that condition?

A. A silent half scram occurs and is reset using the MG Set EPA Breakers.

B. A half scram occurs and is reset using the Reactor Scram Reset Logic Switches A, B, C, and D at 2CEC*PNL603.

C. The "A" RPS logic remains energized, power is momentarily lost to RPS Pilot Scram Solenoids and no resetting is required.

D. The "A" RPS logic trips and the RPS Pilot Scram Solenoids deenergized, reset using the Reactor Scram Reset Logic Switches A, B, C, and D at 2CEC*PNL603.

Proposed Answer: A

Explanation (Optional):

A. Correct - RPS Bus A supplies power to the A solenoid via EPA breakers. These EPA's will open to protect their loads form under and over voltage along with under frequency. The EPA' for 2RPM-MG1A will open on under voltage and deenergized the "A" scram solenoids inserting a half scram on the RPS system. To reset the half scram the MG Set EPA Breakers must be reset. Since the RPS logic was not affected there is no need to use the Reactor Scram Reset Logic Switches A, B, C, and D at 2CEC*PNL603.

B. Incorrect - Since the RPS logic was not affected there is no need to use the Reactor Scram Reset Logic Switches A, B, C, and D at 2CEC*PNL603.

C. Incorrect - The EPA' for 2RPM-MG1A will open on under voltage and deenergized the "A" scram solenoids inserting a half scram on the RPS system. The EPA breakers must be reset before the scram can be reset.

D. Incorrect - RPS Bus A supplies power to the A solenoid via EPA breakers. These EPA's will open to protect their loads form under and over voltage along with under frequency. The EPA' for 2RPM-MG1A will open on under voltage and deenergized the "A" scram solenoids inserting a half scram on the RPS system. Since the RPS logic was not affected there is no need to use the Reactor Scram Reset Logic Switches A, B, C, and D at 2CEC*PNL603.

Technical Reference(s): N2-OP-97, Sect. G.2, pgs 16 & 17 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Instrument sys, ID: N2-212000-RBO-05-Q05

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 6

55.43

Design, components, and function of reactivity control mechanisms and instrumentation.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	264000 K4.08	
Importance Rating	3.8	

Knowledge of EMERGENCY GENERATORS (DIESEL/JET) design feature(s) and/or interlocks which provide for the following: Automatic startup

Proposed Question: RO Question # 25

Following a startup, Breaker 2ENS*SWG101-13, the Normal Supply Breaker for 2ENS*SWG101, is inadvertently placed in normal-after-stop.

Which one of the following describes the response of the Division I EDG?

A. Auto starts and runs idle.

B. Auto starts and reenergizes the bus.

C. Will not auto start, the bus remains energized.

D. Will not auto start, the bus remains deenergized.

Proposed Answer: A

Explanation (Optional):

A. Correct - Manually opening a division 1 or division 2 feeder breaker results in both breakers being in normal-after-stop. The output breaker for the diesel generator requires one of the feeder breakers to be in normal-after-start in order to close. Because neither breaker is in normal-after-start, the diesel generator will start, but will not automatically energize the bus.

B. Incorrect - Because neither breaker is in normal-after-start, the diesel generator will start, but will not automatically energize the bus.

C. Incorrect - With both breakers open and the diesel not tying to the bus the bus is de-energized and the diesel will start.

D. Incorrect - With both breakers open and the diesel not tying to the bus the bus is de-energized and the diesel will start.

Technical Reference(s): N2-OP-72, N2-OP-100A (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Electrical Sys, ID: N2-101-264000-RBO05-Q09

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 6

55.43

Design, components, and function of reactivity control mechanisms and instrumentation.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	1	
K/A #	209001 A2.05	
Importance Rating	3.3	

Ability to (a) predict the impacts of the following on the LOW PRESSURE CORE SPRAY SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Core spray line break

Proposed Question: RO Question # 26

Following loss of coolant accident with injection required and the Low Pressure Core Spray (LPCS) pump recovering RPV water level the following events occur:

- Annunciator 601419 LPCS LINE BREAK alarms
- LPCS discharge pressure lowers to reactor pressure.

Which one of the following (1) identifies the LPCS problem AND (2) the required actions by N2-ARP-01?

A. (1) A break in the LPCS discharge line between the injection valve and RPV wall.
(2) Initiate injection with Low Pressure Coolant Injection A.

B. (1) A break in the LPCS discharge line between the RPV wall and core shroud.
(2) Initiate injection with Low Pressure Coolant Injection A.

C. (1) A break in the LPCS discharge line between the injection valve and RPV wall.
(2) Initiate injection with Low Pressure Coolant Injection B and/or C.

D. (1) A break in the LPCS discharge line between the RPV wall and core shroud.
(2) Initiate injection with Low Pressure Coolant Injection B and/or C.

Proposed Answer: D

Explanation (Optional):

A. Incorrect - The alarm is caused by rising pressure in the LPCS line between the RPV wall and core shroud indicating a break in the LPCS system piping inside the RPV. If

the annunciator alarms when injection is required the ARP states "Utilize LPCI B/C IF RPV injection is required, per N2-EOP's".

B. Incorrect - If the annunciator alarms when injection is required the ARP states "Utilize LPCI B/C IF RPV injection is required, per N2-EOP's".

C. Incorrect - The alarm is caused by rising pressure in the LPCS line between the RPV wall and core shroud indicating a break in the LPCS system piping inside the RPV.

D. Correct - The alarm is caused by rising pressure in the LPCS line between the RPV wall and core shroud. This indicates a break of the LPCS piping inside the reactor, indicating that LPCS will not work as designed and is inoperable. If the annunciator alarms when injection is required the ARP states "Utilize LPCI B/C IF RPV injection is required, per N2-EOP's".

Technical Reference(s): N2-OP-32, N2-ARP-01, 601419 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10

55.43

Administrative, normal, abnormal, and emergency operating procedures for the facility.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	2	
K/A #	245000 K1.05	
Importance Rating	2.7	

Knowledge of the physical connections and/or cause- effect relationships between MAIN TURBINE GENERATOR AND AUXILIARY SYSTEMS and the following: Extraction steam system

Proposed Question: RO Question # 27

The plant is operating at 100% power when a high moisture separator water level causes a turbine trip. During the turbine trip the non-return check valves in the extraction steam lines to the building heaters, clean steam reboilers, and the third, fourth and sixth point feedwater heaters fail open.

Which one of the following events will occur?

A. A loss of Main Condenser Vacuum.

B. A Main Turbine overspeed with possible turbine damage.

C. A rapid slowdown of the Main Turbine causing high stress on turbine blades.

D. A rapid cooldown of feedwater to the reactor potentially causing RPV thermal shock.

Proposed Answer: B

Explanation (Optional):

A. Incorrect – Steam stored in the ES lines would reverse flow when the FW heaters isolate due to the turbine trip, there would be no effect on condenser vacuum.

B. Correct - The large volume of steam stored in the ES lines would reverse flow when the FW heaters isolate due to the turbine trip. This steam if allowed would flow thru the now unloaded turbine causing it to overspeed, possibly causing damage to turbine blades.

C. Incorrect - The steam would flow thru the now unloaded turbine causing it to overspeed.

D. Incorrect - stored heat in the heaters limit feedwater cooldown and feedwater flow lowers to minimum.

Technical Reference(s): N2-OP-08, Sect. B (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 4

55.43

Secondary coolant and auxiliary systems that affect the facility.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	2	
K/A #	215002 K2.01	
Importance Rating	2.5	

Knowledge of electrical power supplies to the following: RBM channels: BWR-3,4,5

Proposed Question: RO Question # 28

The plant is at 100% power when power from UPS3A is lost.

Which one of the following describes the affects, if any, on power to the Rod Block Monitoring (RBM) system?

(1) RBM "A" power is ____
(2) RBM "B" power is ____

A. (1) Lost
(2) Lost

B. (1) Lost
(2) Still available

C. (1) Still available
(2) Lost

D. (1) Still available
(2) Still available

Proposed Answer: D

Explanation (Optional):

A. Incorrect - Power to the RBMs NOT lost.

B. Incorrect - Power to the RBMs NOT lost.

C. Incorrect - Power to the RBMs NOT lost.

D. Correct - The RBMs receive power from both UPS3A and UPS3B with the actual RBMs supply auctioneered between the two. When one power supply is lost the other power supply assumes the load.

Technical Reference(s): N2-SOP-97, Att. 5 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 5

55.43

Facility operating characteristics during steady state and transient conditions, including coolant chemistry, causes and effects of temperature, pressure and reactivity changes, effects of load changes, and operating limitations and reasons for these operating characteristics.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	2	
K/A #	202001 K3.04	
Importance Rating	3.7	

Knowledge of the effect that a loss or malfunction of the RECIRCULATION SYSTEM will have on following: Reactor water level

Proposed Question: RO Question # 29

The plant is operating at 100% power when the following events occur:

- Recirculation Pumps 2RCS*P1A and 2RCS*P1B trip
- The reactor is manually scrammed and scram actions taken.
- Recirculation Pumps 2RCS*P1A and 2RCS*P1B CANNOT be restarted

Which one of the following (1) is the initial affect on indicated RPV water level when the RCS Pumps trip AND (2) per SOP-29, Sudden Reduction in Core Flow, what must be done with RPV water level after the trip?

A. (1) RPV level rises
(2) Raise RPV water level to 227 to 243 inches.

B. (1) RPV level rises
(2) Raise RPV water level to greater than 243 inches.

C. (1) RPV level lowers
(2) Raise RPV water level to 227 to 243 inches.

D. (1) RPV level lowers
(2) Raise RPV water level to greater than 243 inches.

Proposed Answer: A

Explanation (Optional):

A. Correct – When the recirculation pumps trip they stop taking a suction on the annulus region of the RPV and indicated water level rises. To establish natural circulation RPV

water level is raised to 227 to 243 inches.

B. Incorrect - Raising RPV water level above 243 inches would flood the main steam lines.

C. Incorrect – Initially indicated RPV water level rises.

D. Incorrect - Initially indicated RPV water level rises. Raising RPV water level above 243 inches would flood the main steam lines.

Technical Reference(s): N2-SOP-29. Att 1, (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 2

55.43

General Design features of the core, including core structure, fuel elements, control rods, core instrumentation, and coolant flow.

Comments:

Made minor revisions to the stem 6-22-09

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	2	
K/A #	223001 K4.05	
Importance Rating	2.9	

Knowledge of PRIMARY CONTAINMENT SYSTEM AND AUXILIARIES design feature(s) and/or interlocks which provide for the following: Maintains proper suppression pool to drywell differential pressure

Proposed Question: RO Question # 30

Following a LOCA the following conditions exist:

- Drywell Pressure is 12.5 psig.
- Suppression Chamber pressure is 12.9 psig

Which one of the following describes, (1) the position of Suppression Chamber to Drywell Vacuum Breakers and (2) the bases for these valves?

A. (1) Open
(2) Prevent excessive downward pressure on the drywell floor.

B. (1) Open
(2) Prevent excessive differential pressure across the wetwell/drywell boundary

C. (1) Closed
(2) Prevent excessive downward pressure on the drywell floor.

D. (1) Closed
(2) Prevent excessive differential pressure across the wetwell/drywell boundary

Proposed Answer: B

Explanation (Optional):

A. Incorrect – The vacuum breakers relieve from the Suppression Chamber to Drywell to limit <u>upward</u> stress on DW floor caused by a differential across the wetwell/drywell boundary.

B. Correct – The Suppression Chamber to Drywell vacuum breakers open when a differential pressure of greater than 0.25 psid exists between the Suppression Chamber and the Drywell. The vacuum breakers relieve from the Suppression Chamber to Drywell to limit upward stress on DW floor caused by a differential across the wetwell/drywell boundary.

C. Incorrect - The Suppression Chamber to Drywell vacuum breakers would be open because the D/P is greater the 0.25 psid. The vacuum breakers relieve from the Suppression Chamber to Drywell to limit upward stress on DW floor caused by a differential across the wetwell/drywell boundary.

D. Incorrect - The Suppression Chamber to Drywell vacuum breakers would be open because the D/P is greater the 0.25 psid.

Technical Reference(s): T.S. Bases for 3.6.1.7 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7

55.43

Design, components, and function of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	2	
K/A #	214000 K5.01	
Importance Rating	2.7	

Knowledge of the operational implications of the following concepts as they apply to ROD POSITION INFORMATION SYSTEM : Reed switches

Proposed Question: RO Question # 31

The plant is at 90% power when the following indications are received:

- ROD DRIFT annunciator alarms
- Rod Drift light for control rod 30-31 on the Full-Core display lights up

Which one of the following caused the above conditions?

A. A control rod is being moved using Continuous Insert.

B. A control rod is being moved using Continuous Withdrawal.

C. The Rod Drift Test pushbutton on the Rod Select Matrix is pressed.

D. A control rod passes an odd reed switch with no rod drive signal present.

Proposed Answer: D

Explanation (Optional):

A. Incorrect – A continuous insert using the RMCS will not cause rod drift.

B. Incorrect - Continuous withdrawal will bypass the rod drift.

C. Incorrect - Rod must be moving when test selected.

D. Correct – Picking up an odd reed switch with no drive signal will cause the alarm.

Technical Reference(s): N2-OP-96 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Instrument sys, ID: 15747

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7

55.43

Design, components, and function of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	2	
K/A #	233000 K6.07	
Importance Rating	2.7	

Knowledge of the effect that a loss or malfunction of the following will have on the FUEL POOL COOLING AND CLEAN-UP : Component cooling water systems

Proposed Question: RO Question # 32

The plant is in Mode 4 when a piping failure caused a complete loss of Reactor Building Closed Loop Cooling (CCP).

Which one of the following (1) states how to determine effect of the loss of CCP on spent fuel pool temperatures AND (2) what actions are required?

A. (1) Time to boil curves listed in N2-SOP-31, Loss of Shutdown Cooling
(2) Align Service Water to the in service SFC Heat Exchanger

B. (1) Time to boil curves listed in N2-SOP-31, Loss of Shutdown Cooling
(2) Shift to the alternate SFC Heat Exchanger

C. (1) Time to boil curves listed in N2-SOP-38, Loss of Spent Fuel Pool Cooling
(2) Shift to the alternate SFC Heat Exchanger

D. (1) Time to boil curves listed in N2-SOP-38, Loss of Spent Fuel Pool Cooling
(2) Align Service Water to the in service SFC Heat Exchanger

Proposed Answer: D

Explanation (Optional):

A. Incorrect - SOP-31 does not contain time to boil curves for the spent fuel pool.

B. Incorrect - SOP-31 does not contain time to boil curves for the spent fuel pool and shifting to the alternate SFC cooler will not help because CCP supplies both HX.

C. Incorrect - Shifting to the alternate SFC cooler will not help because CCP supplies both HX.

D. Correct - IAW N2-SOP-38 for a loss of CCP the SFC heat exchanger should be aligned to its alternate source SW. The heat up of the Spent Fuel Pool can be determined using the time to boil curves in the SOP.

Technical Reference(s): N2-SOP-38, Att. 1 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10

55.43

Administrative, normal, abnormal, and emergency operating procedures for the facility.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	2	
K/A #	201002 A1.02	
Importance Rating	3.4	

Ability to predict and/or monitor changes in parameters associated with operating the REACTOR MANUAL CONTROL SYSTEM controls including: Control rod position

Proposed Question: RO Question # 33

A reactor startup is in progress with the following:

- Control rod 18-53 is being withdrawn from position 26 to position 28
- Indication on the 4-rod display for this control rod is 'XX'
- Control Rod Block annunciator is received on P603

Which one of the following is the explanation for this indication?

The control rod ...

A. is at a substitute position.

B. has faulty position indication.

C. has gone beyond position 28.

D. is between position 26 and 28.

Proposed Answer: B

Explanation (Optional):

A. Incorrect - If a control rod receives a substitute position, the 4-rod display would indicate the substitute position.

B. Correct - Indication of a faulty reed switch is that the position indication on P603 4-rod display indicates 'XX'.

C. Incorrect - If the rod had gone past position 28, the 4-rod display would indicate the rod position where the rod actually stopped.

D. Incorrect - If the rod position was between position 26 and position 28, the control rod would indicate "--" instead of "XX".

Technical Reference(s): N2-OP-96, 2.0.2.d (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Instrument sys, ques # 9

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 2

55.43

General Design features of the core, including core structure, fuel elements, control rods, core instrumentation, and coolant flow.

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	2	
K/A #	272000 A2.08	
Importance Rating	2.9	

Ability to predict the impacts of the following on the RADIATION MONITORING SYSTEM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Offgas system failure

Proposed Question: RO Question # 34

The plant was operating at rated conditions when the following occurred:

- The offgas system is in single train operation.
- The in service offgas recombiner has failed.
- Offgas Radiation Monitors 2OFG-RU13A and 2OFG-RU13B are above their Alarm (RED) setpoints.
- The Crew has entered N2-SOP-17, Fuel Failure or High Activity in RX Coolant or Offgas.

Which one of the following is required by N2-SOP-17?

A. Enter N2-SOP-101C, Reactor Scram and scram the reactor and close the MSIVs.

B. Place the standby offgas recombiner in service using N2-OP-42, Offgas System.

C. Enter N2-SOP-101D, Rapid Power Reduction and lower power until radiation levels stabilize.

D. Enter N2-SOP-09, Loss of Vacuum and if Condenser vacuum reaches 22.1" Hg trip the Main Turbine.

Proposed Answer: A

Explanation (Optional):

A. Correct – Per SOP-17, if both CAB 13s are in alarm (the Offgas system isolates) enter N2-SOP-101C, Reactor Scram and scram the reactor and close the MSIVs.

B. Incorrect – The high alarms on Offgas Radiation Monitors 2OFG-RU13A and 2OFG-RU13B isolate Offgas placing the standby recombiner in service would have no affect.

C. Incorrect – A scram is required at this time.

D. Incorrect - A scram is required at this time.

Technical Reference(s): N2-SOP-17 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	2	
K/A #	239001 A3.01	
Importance Rating	4.2	

Ability to monitor automatic operations of the MAIN AND REHEAT STEAM SYSTEM including: Isolation of main steam system

Proposed Question: RO Question # 35

The plant is operating at 50% power, with the following:

- Main Condenser Vacuum transmitter B22-N075C is in the tripped condition

THEN, Main Condenser Vacuum transmitter B22-N075B fails to 0 inches

Which one of the following describes the effect of these conditions on MSIV isolation logic?

A. Full isolation is generated to inboard MSIVs alone.

B. Only half isolation is generated to the inboard MSIVs alone.

C. Only half isolation is generated to both the inboard and outboard MSIVs.

D. Full isolation signal is generated to both the inboard and outboard MSIVs.

Proposed Answer: D

Explanation (Optional):

A. Incorrect - A full isolation occurs, both inboard and outboard close.

B. Incorrect - A full isolation occurs, both inboard and outboard close.

C. Incorrect - A full isolation occurs, both inboard and outboard close.

D. Correct - With the "C" transmitter in the tripped condition, a half isolation signal exists for MSIVs from one trip system. When the "B" transmitter fails below the trip setpoint,

the other trip system trips resulting in full isolation of both inboard and outboard MSIVs. A and C are in one trip system, B and D are in the other trip system. Channels B and C being tripped satisfies the one out of two twice trip logic.

Technical Reference(s): N2-OP-83, Sect B, pg 3
GE DWG 807E152TY
ID: N2-223002-RBO-05-Q03 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Instrumentation sys ID: N2-223002-RBO-05-Q03

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	2	
K/A #	201001 A4.01	
Importance Rating	3.1	

Ability to manually operate and/or monitor in the control room: CRD pumps

Proposed Question: RO Question # 36

The plant is operating at 100% power when the following events occur:

- Annunciator 603318, CRD PUMPS SUCTION FLTR DIFF PRESSURE HIGH
- Annunciator 603309, CRD PUMP 1A SUCTION PRESS LOW
- Annunciator 603308, CRD PUMP 1A/1B AUTO TRIP
- Annunciator 603441, ROD DRIVE ACCUMULATOR TROUBLE, alarms
- The accumulator alarm is determined to be for rod 30-31
- Rod 30-31 is at position 48
- Accumulator pressure is determined to be 1010 psig for rod 30-31

Which one of the following actions is required for this event?

A. Scram the reactor and take appropriate actions per N2-SOP-101C.

B. Place the standby RDS Pump (1B) in service per N2-OP-30.

C. After 20 minutes an RDS Pump is NOT restored scram and enter N2-SOP-101C.

D. Place the standby Suction Filter in service per N2-OP-30, and then start either RDS Pump.

Proposed Answer: D

Explanation (Optional):

A. Incorrect this would only apply if reactor pressure was less than 900 psig which it would not be at 100% power.

B. Incorrect - N2-OP-30, Sect F.2 assumes a normal flowpath, in this case there is no suction flowpath.

C. Incorrect – Assumes two accumulators are inoperable at present all accumulators are operable.

D. Correct – A common filter supplies both RDS pumps, it is necessary at this time to shift suction filters before restoring RDS pressure and flow per SOP-30.

Technical Reference(s): N2-ARP-01
N2-SOP-30 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	2	
K/A #	259001 2.2.38	
Importance Rating	3.6	

Equipment Control: Knowledge of conditions and limitations in the facility license.

Proposed Question: RO Question # 37

The plant is operating at rated power with the following:

- A reduction in core flow transient results in core flow of 65% of rated
- Both Recirc pumps are still operating in high speed

Which one of the following identifies the Tech Spec Thermal Limit LCO limit that will be affected?

A. Linear Heat Generation Rate (LHGR)

B. Average Planar Linear Heat Generation Rate (APLHGR)

C. Minimum Critical Power Ratio (MCPR)

D. Preconditioning Ratio (PCRAT)

Proposed Answer: C

Explanation (Optional):

A. Incorrect - LHGR LCO LIMIT is not affected by either the reduction or a rise in core flow. Per COLR and T.S. They are affected by Bypass Valves out of service.

B. Incorrect - APLHGR LCO LIMIT is not affected by either the reduction or a rise in core flow. Per COLR and TS 3.2.1 APLHGR limits are based on exposure. Although a reduction (by 0.78 times the 2 loop limit) in APLHGR limit is applied when in single loop, the conditions given in this question specifically state that "Both Recirc pumps are still operating in high speed".

C. Correct - The MCPR LCO operating limit is HIGHER following a flow reduction. Per the COLR and TS 3.2.2 Bases "MCPR operating limit is the greater of either flow dependent MCPR limit $MCPR_f$ or power dependent MCPR limit $MCPR_p$.

D. Incorrect. PCRAT is not a true thermal limit, it is a limit placed on power maneuvers based on fuel management.

Technical Reference(s): Tech Spec Bases 3.2.2
COLR Sect 2 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Question # 28, Reactor Plant Sys.

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 1, 10

55.43

Comments:

Decided to wait and see how it validated before adding a reference for the candidate. The concern is that the reference may make the question a direct lookup, that and a candidate should know that Core Flow affects MPR. 6-22-09

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	2	
Group #	2	
K/A #	234000 K4.03	
Importance Rating	3.4	

Knowledge of FUEL HANDLING EQUIPMENT design feature(s) and/or interlocks which provide for the following: Protection against inadvertently lifting radioactive components out of the water

Proposed Question: RO Question # 38

Which one of the following states the precautions and/or interlocks used to prevent overexposure of personnel operating the fuel prep machines?

The East Fuel Prep Machine ... (1)
The West Fuel Prep Machine ... (2)

A. (1) is procedurally limited for use with new fuel only.
(2) has mechanical stops that limit the upward movement of fuel.

B. (1) has an air motor cutoff when sensed radiation reaches 15 mr/hr.
(2) is only capable of lifting a fuel assembly to within 8 feet of the surface of the pool.

C. (1) has mechanical stops that limit the upward movement of fuel.
(2) is procedurally limited for use with new fuel only.

D. (1) is only capable of lifting a fuel assembly to within 8 feet of the surface of the pool.
(2) has an air motor cutoff when sensed radiation reaches 15 mr/hr.

Proposed Answer: A

Explanation (Optional):

A. Correct – P & L 4.7 The chain stops on the East Fuel Preparation Machine are removed to support receipt of new fuel. For this reason, use of the East Fuel Preparation Machine during performance of this procedure is strictly prohibited.
Note at Step 6.1.3, If the West Fuel Prep Machine is raised out of the water with an Irradiated Fuel Assembly on the Carriage, substantial radiation doses would be received

by the Operator. These radiation doses could be high enough to be fatal. The operator must ensure that the West Fuel Prep Machine Carriage stops well below water level.

B. Incorrect - there are no stops on the East Machine and the West Machine can lift a bundle out of the water if the chain stops are not properly in place.

C. Incorrect – the East Machine is procedurally controlled and the West Machine has mechanical stops.

D. Incorrect - there are no stops on the East Machine and the West Machine can lift a bundle out of the water if the chain stops are not properly in place.

Technical Reference(s): N2-FHP-16, P & L 4.7 and Note on pg 12. (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 13

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295038 EK1.02	
Importance Rating	4.2	

Knowledge of the operational implications of the following concepts as they apply to HIGH OFF-SITE RELEASE RATE : Protection of the general public

Proposed Question: RO Question # 39

Following a LOCA with fuel failure the crew has entered N2-EOP-MSL, MSIV Leakage Control. You have been directed to lineup and operate the Steam Jet Air Ejectors (SJAE).

In accordance with the EOP Bases which one of the following is the basis for this action?

A. Maintains the Main Condenser as a Heat Sink for Cooldown.

B. Allows the SJAE Inter Condensers to condense any steam leakage.

C. Directs the radioactive steam to the Off-Gas system for holdup and treatment.

D. Allows Main Steam to flow directly to the condenser through the SJAE suctions.

Proposed Answer: C

Explanation (Optional):

A. Incorrect – There is no attempt to maintain condenser vacuum, this methods allows stream leakage only to flow to the Off-Gas system.

B. Incorrect – The inter cooler may not be in operation and are not required condensation would occur in Off-Gas Coolers and Radioactive gases will not condense.

C. Directing steam leakage to the Off-Gas system provides holdup and filtration in the Off-Gas system and an elevated release.

D. Incorrect – Steam flows to the Off-Gas system.

Technical Reference(s): EOP Bases for EOP-MSL, Step 5, pg 13-9 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 12

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295028 EK1.02	
Importance Rating	2.9	

Knowledge of the operational implications of the following concepts as they apply to HIGH DRYWELL TEMPERATURE : Equipment environmental qualification

Proposed Question: RO Question # 40

Which one of the following is the bases for the N2-EOP-PC step that requires initiating Drywell Sprays before reaching 340°F?

A. To prevent exceeding the Drywell structural design limit ONLY.

B. To ensure drywell sprays are within the Drywell Spray Initiation Limit curve.

C. To ensure the operability of RPV water level instruments at RPV shutdown pressures.

D. To maintain ADS qualification and prevent exceeding the Drywell structural design limit.

Proposed Answer: D

Explanation (Optional):

A. Incorrect – The ADS qualifications are also a concern.

B. Incorrect – Although this temperature is just below the upper limit of the DWSIL curve, it is not the bases for spraying before 340°F

C. Incorrect – Although the Saturation curve high temperature limit is 350°F this is not the bases for spraying the DW before 340°F.

D. Correct – the bases for spraying the DW before 340°F is to maintain ADS qualification and prevent exceeding the Drywell structural design limit.

Technical Reference(s): EOP Bases, pg 5-8 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295006 2.2.22	
Importance Rating	4.0	

Knowledge of limiting conditions for operations and safety limits. (Reactor Scram)

Proposed Question: RO Question # 41

During which one of the following postulated scenarios is a Technical Specification SAFETY LIMIT violated?

A. While at power, a small break occurs in one of the Recirc pump suction lines. The crew cannot restore injection and turn level until it drops to +18 inches.

B. At 100% power HPCS spuriously injects into the reactor vessel; the Reactor Engineer determines MCPR in the highest powered bundle was as low as 1.15.

C. Immediately before the Mode Switch is to be placed in RUN during a startup, a Rod Drop accident causes power to peak at 12% before the APRM high flux scram occurs.

D. While at full power, EHC fails and causes the reactor to depressurize; the MSIVs remain open and before the operator manually scrams the reactor, he notes pressure is 750 psig.

Proposed Answer: D

Explanation (Optional):

A. Incorrect – Reactor water level must be greater than the top of active fuel which is -14 inches.

B. Incorrect – the limit for MCPR is <1.07 for two loop operation and 1.09 for single loop operation.

C. Incorrect – This is below the 25% limit.

D. Correct – the reactor core safety limit states that with steam dome pressure less than

785 psig or core flow less than 10% reactor power must be less than 25%.

Technical Reference(s): T.S. Sect 2.1 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # INPO Bank

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 5

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	600000 AK2.01	
Importance Rating	2.6	

Knowledge of the interrelations between PLANT FIRE ON SITE and the following: Sensors, detectors and valves

Proposed Question: RO Question # 42

The plant is at 100% power with the following:

- Fire Brigade Leader reports a fire on Rx bldg 175 North
- The Fire Zone (212SW) is in ALARM LOCKOUT at the local fire panel

Which one of the following describes the (1) NORMAL MEANS of suppression for this area AND (2) the required operator actions?

A. (1) Single zone initiation
(2) Place zone control switch to Open at the Main Fire Control Panel.

B. (1) Single zone initiation
(2) Place zone disconnect switch in Disconnect at the Local Fire Panel.

C. (1) This zone does NOT have an Automatic Initiation.
(2) Place zone control switch to Open at the Main Fire Panel.

D. (1) This zone does NOT have an Automatic Initiation.
(2) Place zone disconnect switch in disconnect at the Local Fire Panel.

Proposed Answer: A

Explanation (Optional):

A. Correct - In OP-47 Zone is 212SW where the S stands for a single detector which means an auto initiation of fire suppression if a single detector senses a fire. However if you have an actual Fire but the zone is in Alarm Lockout or disconnect at the local fire panel the suppressant must be discharged manually from either panel. The manual

discharge signal will override the Alarm Only, Disconnect, or Alarm Lockout.

B. Incorrect – Placing the zone disconnect switch in Disconnect at the local panel prevents the auto initiation.

C. Incorrect – This zone does have automatic initiation, however the initiation is locked out.

D. Incorrect – This zone does have automatic initiation, however the initiation is locked out. Placing the zone disconnect switch in Disconnect at the local panel prevents the auto initiation.

Technical Reference(s): N2-OP-47, Sect B, pgs 6 & 7 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Misc sys. Ques # 126

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 4

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295005 AK2.01	
Importance Rating	3.8	

Knowledge of the interrelations between MAIN TURBINE GENERATOR TRIP and the following: RPS

Proposed Question: RO Question # 43

Reactor startup in progress, with the following:

- Reactor pressure is 850 psig and slowly rising.
- Turbine warmup in progress.
- High Pressure turbine shell pressure is 105 psig and continues to rise.

Which one of the following identifies the impact on the plant, if no actions are taken to stop the rise in turbine shell pressure?

A. Excessive shell heatup rate

B. Inadvertent rolling of the turbine.

C. Inadvertent reactor scram on a turbine trip signal.

D. Excessive delta temperature across the turbine chest.

Proposed Answer: C

Explanation (Optional):

A. Incorrect – Shell warming is under control, however the rise in first stage pressure is not.

B. Incorrect – Rolling is not a concern for these conditions.

C. Correct – Particular attention is required if shell warming is being performed in conjunction with raising Reactor Pressure. First Stage Pressure must remain <111 psia

during shell warming to prevent a possible Reactor scram when first stage pressure exceeds the pressure indicating sufficient load (30%) on the turbine to bypass the main turbine trip scram.

D. Incorrect – Chest has been performed.

Technical Reference(s): N2-SOP-21
N2-OP-21, Sect. D.4.0, pg 11 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # X

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295004 AK2.02	
Importance Rating	3.0	

Knowledge of the interrelations between PARTIAL OR COMPLETE LOSS OF D.C. POWER and the following: Batteries

Proposed Question: RO Question # 44

The plant is operating at 85% power when the over voltage protection circuit actuates on the Division I safety related battery charger, 2BYS*CHGR2A1.

WHICH one of the following describes the effect on the battery charger and Division I safety related 125 VDC bus?

A. The DC output from the charger trips and the bus deenergizes.

B. The AC input to the charger trips and the battery will supply the bus.

C. Charger operates in voltage limiting mode and supplies the bus with the battery.

D. Charger DC output and AC input trip and the standby charger automatically supplies the bus.

Proposed Answer: B

Explanation (Optional):

A. Incorrect - The AC input breaker to the chargers trips and the battery will supply the loads.

B. Correct - Divisions I, II and III battery chargers and the normal 125 VDC battery chargers have an over voltage protection circuit which disconnects the AC input breaker to the chargers when the DC output voltage exceeds a manually preset value. Charger AC input breaker will open. The battery will supply the loads.

C. Incorrect - The AC input breaker to the chargers trips and the battery will supply the

loads.

D. Incorrect – Only the AC input breaker to the chargers trips and the battery will supply the loads. Placing the standby charger in service requires manually closing the breakers.

Technical Reference(s): N2-OP-74A, Sect B.1, pg 2
N2-ARP-01, Ann 852108 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Electrical sys, ID: N2-263000-RBO-05-Q04

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295006 AK3.06	
Importance Rating	3.2	

Knowledge of the reasons for the following responses as they apply to SCRAM : Recirculation pump speed reduction: Plant-Specific

Proposed Question: RO Question # 45

Which one of the following is the reason why the Recirculation Pumps are shifted from high speed to slow speed during a scram?

A. Ensure sufficient NPSH.

B. Maintain Core Thermal Limits.

C. Prevent the pumps from going to runout.

D. Aid in controlling the RPV level transient.

Proposed Answer: A.

Explanation (Optional):

A. Correct - The reactor recirculation pumps are located substantially below the normal water level to provide sufficient NPSH during slow speed operation. During normal power operation the feedwater flow subcools the downcomer region sufficiently to prevent FCV cavitation during high speed pump operation. To ensure proper subcooling, pump operation in high speed is not permitted if feed flow is less than 22.4%.

B. Incorrect – This is the reason for shifting to slow speed before tripping during a ATWS/RPT trip

C. Incorrect – The FCVs would control flow to prevent runout.

D. Incorrect – By slowing the recirculation pump less water is removed from the annulus

region and the shift to slow speed makes the RPV level increase following a scram more severe.

Technical Reference(s): Recirculation Student Text, pg 61 of 88. (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 5

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295026 EK3.02	
Importance Rating	3.9	

Knowledge of the reasons for the following responses as they apply to SUPPRESSION POOL HIGH WATER TEMPERATURE: Suppression Pool Cooling

Proposed Question: RO Question # 46

When Suppression Pool high water temperature reaches or exceeds 90°F, N2-EOP-PC and Technical Specifications require NMP 2 to place RHS in suppression pool cooling.

Which one of the following is the bases for this requirement?

Cooling the suppression pool water to below 90°F ...

A. prevents chugging in the suppression pool during a DBA.

B. ensures peak containment pressures and temperatures remain within allowable values during a DBA.

C. prevents exceeding the maximum water temperatures for CSL and RHS NPSH during a DBA.

D. ensures sufficient margin to prevent pressure oscillations at the SRV discharges during a stuck open SRV.

Proposed Answer: B

Explanation (Optional):

A. Incorrect – Chugging is related to suppression pool pressure.

B. Correct – IAW T.S. Bases, ensures peak containment pressures and temperatures remain within allowable values during a DBA.

C. Incorrect - This is not a concern associated with the 90°F limit.

D. Incorrect – This is not a concern associated with the 90°F limit.

Technical Reference(s): T.S. Bases 3.6.2.1 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 8

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295021 AK3.02	
Importance Rating	3.3	

Knowledge of the reasons for the following responses as they apply to LOSS OF SHUTDOWN COOLING : Feeding and bleeding reactor vessel

Proposed Question: RO Question # 47

The plant is in MODE 4 when the following events occur:

- A valve misalignment causes RPV water level to lower to 84 inches.
- Two minutes later 2ENS*SWG101 experiences a ground fault.

Which of the following methods of decay heat removal is available?

A. Reject heat through the RWCU non-regenerative heat exchanger to transfer RPV heat to the service water system.

B. Injection with RHS "B" AND opening SRVs to feed and bleed the RPV to transfer RPV heat to the suppression pool.

C. Place RHS "B" in Shutdown Cooling to maintain RPV water temperature below 200°F and prevent an inadvertent mode change.

D. Run at least one Reactor Recirculation Pump to maintain RPV water temperature below 200°F and prevent an inadvertent mode change.

Proposed Answer: B

Explanation (Optional):

A. Incorrect - RWCU isolates at level 2.

B. Correct - RHS "B" is available, as well as SRVs in this mode, and it is one of the recommended alignments for alternate Shutdown cooling provided in SOP-31.

C. Incorrect - SDC isolates at level 3.

D. Incorrect – This provides forced core cooling, but not decay heat removal. RCS pumps trip at L2, 108.8"

Technical Reference(s): N2-SOP-39, Sect 5.2, pg 3 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor:

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295019 AA1.02	
Importance Rating	3.3	

Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR : Instrument air system valves: Plant-Specific

Proposed Question: RO Question # 48

The plant is operating at rated power with the following:

- Annunciator 603306, CRD SCRAM VALVE PILOT AIR HDR PRESS HIGH/LOW, alarms.
- Instrument Air (IAS) header pressure is 120 psig and steady.
- A Plant Operator reports the Scram Air Header pressure is steady at 64 psig.
- NO control rods are drifting.

Which one of the following describes the required action?

A. Verify all IAS Compressors are loaded and bypass IAS Dryers.

B. Swap Scram Air Header Supply Filters and Pressure Control Valves.

C. Bypass Scram Air Header Supply Filters and Pressure Control Valves.

D. Verify all IAS Compressors are loaded and isolate Service Air Header.

Proposed Answer: B

Explanation (Optional):

A. Answer 'A' would be true for a dryer valve malfunction.

B. Answer 'B' is correct: Per SOP-19 it is required to swap scram air header supply filters and pressure control valves.

C. Answer 'C' is not correct because the scram air header is required to be filtered and

regulated by procedure.

D. Answer 'D' would be true if IAS header pressure was below 85 psig due to SAS header break.

Technical Reference(s): SOP-19, Att 3 , pg 12 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	
	Group #	1	
	K/A #	295037 EA1.01	
	Importance Rating	4.6	

Ability to operate and/or monitor the following as they apply to SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN : Reactor Protection System

Proposed Question: RO Question # 49

The plant has experienced an Anticipated Transient Without Scram (ATWS) following a total loss of EHC pressure. The following conditions exist:

- Reactor power is 4%.
- Control rods have moved in several notches.
- Electrical Protection Assemblies (EPAs) are closed.
- The EOP Director directs control rods be inserted using Attachment 14 of N2-EOP-6, Step 3.3, Additional Manual Scram Initiations.

Which one of the following identifies the steps that must be performed while performing N2-EOP-6 Attachment 14, Sect 3.3 Additional Manual Scram Initiations?

A. De-energize ARI solenoids, bypass RPS Interlocks, reset the scram, ensure the Scram Discharge Volume is drained then initiate a manual scram.

B. Bypass the RPS interlocks, reset the scram, ensure the Scram Discharge Volume is drained then open the Electrical Protection Assemblies (EPAs)

C. Bypass the Turbine Trip scram contacts, Reset RPS, ensure the Scram Discharge Volume is drained then place the Mode Switch in SHUTDOWN.

D. De-energize ARI solenoids, Bypass the Turbine Trip scram contacts, Reset RPS, ensure the Scram Discharge Volume is drained then place the Mode Switch in SHUTDOWN.

Proposed Answer: A

Explanation (Optional):

A. Correct - DE-energize ARI solenoids by pulling the 20 amp fuses to fail Division 1 and 2 ARI Valves. Then defeat RPS interlocks installing EOP Jumpers. Reset RPS by momentarily placing the 4 RPS reset switches to RESET. Wait and ensure the Scram Discharge Volume is drained. WHEN the SDV is drained, initiate a manual scram

B. Incorrect – The ARI solenoids must be de-energized to close the ARI valves and allow the scram air header to re-pressurize when the scram is reset. The reactor is not scrammed by opening the EPA breakers (that's another method of scramming).

C. Incorrect – The ARI solenoids must be de-energized to close the ARI valves and allow the scram air header to re-pressurize when the scram is reset. All the RPS trips must be bypassed.

D. Incorrect –All the RPS trips must be bypassed.

Technical Reference(s): N2-EOP-6, Att 14, Sect 3.3 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295030 EA1.03	
Importance Rating	3.4	

Ability to operate and/or monitor the following as they apply to LOW SUPPRESSION POOL WATER LEVEL: HPCS: Plant-Specific

Proposed Question: RO Question # 50

In accordance with N2-EOP-PC, which one of the following methods is used to maintain Suppression Pool Level above 192'?

Raise Suppression Pool level using the...

A. HPCS jockey pump, controlling HPCS pressure and flow by throttling open CSH*MOV111, Test Return to Suppression Pool.

B. RHS system jockey pumps, controlling RHS pressure and flow by throttling open RHS*FV38A (B, C), Return to Suppression Pool Cooling Valve.

C. Service Water System through the "B" loop of RHS, controlling RHS pressure and flow by throttling open RHS*FV38A (B, C), Return to Suppression Pool Cooling Valve.

D. HPCS system by gravity draining the "B" CST through the HPCS pump, controlling HPCS pressure and flow by throttling open CSH*MOV111, Test Return to Suppression Pool.

Proposed Answer: D

Explanation (Optional):

A. Incorrect – There is no approved lineup using the HPCS Jockey Pump. There is a lineup using the HPCS Pump.

B. Incorrect – The RHS Jockey Pumps take a suction from the Suppression Pool. This is an EOP lineup to add water to the reactor vessel.

C. Incorrect – There is no approved lineup using the Service Water system for

Suppression Pool makeup, this is an EOP lineup for emergency containment spray or reactor makeup.

D. Correct – per Section H.2.0 of OP-33.

Technical Reference(s): OP-31, Sect H.6.0
OP-33, Sects. H.2.0 & H.3.0 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295016 AA2.03	
Importance Rating	4.3	

Ability to determine and/or interpret the following as they apply to CONTROL ROOM ABANDONMENT : Reactor pressure

Proposed Question: RO Question # 51

During implementation of N2-SOP-78, Control Room Evacuation, (1) how is reactor pressure controlled and (2) what indication is used to determine reactor pressure?

A. (1) Manually cycling SRVs
(2) RCIC Turbine Steam pressure

B. (1) Manually cycling SRVs
(2) Reactor Vessel pressure indication

C. (1) EHC controls Turbine BPVs
(2) RCIC Turbine Steam pressure

D. (1) EHC controls Turbine BPVs
(2) Reactor Vessel pressure indication

Proposed Answer: B

Explanation (Optional):

A. Incorrect - The Reactor Vessel (RVI) System provides reactor vessel pressure, level and temperature indication to the Remote Shutdown Panel.

B. Correct – Main steam line isolation is assumed to occur at a specified low turbine inlet pressure and reactor pressure is controlled using the relief valves to the suppression pool.
The Reactor Vessel (RVI) System provides reactor vessel pressure, level and temperature indication to the Remote Shutdown Panel. (2RRS PI102)

C. Incorrect – SRVs are used and the Reactor Vessel (RVI) System provides reactor vessel pressure, level and temperature indication to the Remote Shutdown Panel.

D. Incorrect – The SRVs are used to control reactor vessel pressure.

Technical Reference(s): N2-OP-78, Sect B, pg 8 & F.2.0 pg 18 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	700000 AA2.04	
Importance Rating	3.6	

Ability to determine and/or interpret the following as they apply to GENERATOR VOLTAGE AND ELECTRIC GRID DISTURBANCES: VARs outside capability curve.

Proposed Question: RO Question # 52

Due to a degraded electrical grid generator VARS have risen to 550 MVARS.

Which one of the following actions are required to restore the VARS to within limits?

Note: The Generator Estimates Capacity Curve is provided.

Position the AC Voltage Regulator control switch to ...

A. RAISE until the MAIN GENERATOR MEGAVARS meter on 2CEC*PNL852 indicates 225 MVARS To GEN.

B. LOWER until the MAIN GENERATOR MEGAVARS meter on 2CEC*PNL852 indicates 225 MVARS To GEN.

C. RAISE until the MAIN GENERATOR MEGAVARS meter on 2CEC*PNL852 indicates 500 MVARS To BUS.

D. LOWER until the MAIN GENERATOR MEGAVARS meter on 2CEC*PNL852 indicates 500 MVARS To BUS.

Proposed Answer: D

Explanation (Optional):

A. Incorrect - Must be lowered to 500 by lowering the setpoint of the AC voltage regulator.

B. Incorrect - Must be lowered to 500 by lowering the setpoint of the AC voltage regulator.

C. Incorrect - Must be lowered to 500 by lowering the setpoint of the AC voltage regulator.

D. Correct – The main generator reactive load limits are reactive load to bus is ≤ 500 MVARs and Reactive load to generator is ≤ 225 MVARs. The load to bus is lagging and a positive value. The load to the generator is leading and a negative load. Since the system load is lagging at 550, generator output must be lowered to 500 by lowering the AC voltage regulator setpoint.

Technical Reference(s): N2-SOP-70, Sect 5.2, pg 3
N2-OP-68, Att. 5, pg 91 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: N2-OP-68, Att 5, Generator Estimates Capacity Curve

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 4, 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	
	Group #	1	
	K/A #	295018 AA2.04	
	Importance Rating	2.9	

Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER: System flow

Proposed Question: RO Question # 53

The plant is operating at rated power with the following:

- Service water is in a 2/2 pump lineup.
- Severe weather has caused service water intake clogging.
- Service water intake bay level is 232 ft and slowly lowering.
- 2SWP*MOV77A and 2SWP*MOV77B will not open
- Running Service water pumps are showing signs of cavitation.

Which one of the following is required by N2-SOP-11, Loss or Degraded Service Water system?

A. Scram the reactor per N2-SOP-101C.

B. Manually start additional Service Water Pumps

C. Verify proper operation of the Traveling Screens per N2-OP-12.

D. Throttle SWP*MOV74s as necessary to restore flow and control SWP Pump amps.

Proposed Answer: A

Explanation (Optional):

A. Correct - In accordance with N2-SOP-11 if SWP intake bay level cannot be restored and maintained above 233 ft, a reactor scram is required. With both 2SWP*MOV77's failed closed and level lowering it can be determined that level cannot be restored above 233 ft.

B. Incorrect – Starting another SWP pump will not restore flow with the intake bay at this level.

C. Incorrect –With the intake bay at this level with 2SWP*MOV77's failed closed a scram is required

D. Incorrect – Throttling flow is performed when flow is exceeding 10,000 gpm. In this case flow has been lost due to low level in the intake structure.

Technical Reference(s): N2-SOP-11 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # SOP & EOP Bank # 27

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295003 2.4.46	
Importance Rating	4.2	

Emergency Procedures / Plan: Ability to verify that the alarms are consistent with the plant conditions. (Partial or Complete Loss of AC)

Proposed Question: RO Question # 54

The plant is operating at 100% power with a normal electrical lineup when the following annunciators alarm:

852412, LOSS OF 115KV FROM SCRIBA ALTERNATE 1B PRIMARY RELAY
852217, EGS*EG3 RUNNING

The Main Generator remains on the line.

Which one of the following describes the status of the loads on 2NPS-SWG003?

The loads …

A. are lost on under voltage.

B. remain powered from the bus.

C. are lost on under voltage and then sequence back onto the bus.

D. are lost on under voltage and can then be placed manually back on the bus.

Proposed Answer: B

Explanation (Optional):

A. Incorrect – Loads are not lost

B. Correct – Annunciator 852412 indicates a trip the R-60 Breaker removing the line 6 115 KV line from service. However at 100% power with the generator on the line the 2STX-

XNS1 Transformer is supplying 2NPS-SWG003. The diesels will start but will not load.

C. Incorrect – Loads are not lost

D. Incorrect – Loads are not lost

Technical Reference(s): Plant AC Distribution Drawing
N2-ARP-01
N2-OP-70
(Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 4

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295025 2.4.2	
Importance Rating	4.5	

Emergency Procedures / Plan: Knowledge of system set points, interlocks and automatic actions associated with EOP entry conditions. (High Reactor Pressure)

Proposed Question: RO Question # 55

The plant was operating at 96% power when a Feedwater transient occurred. The following conditions exist:

- Reactor level — 195 inches and lowering slowly
- Reactor pressure — 1055 psig and rising
- Reactor power — <1% and lowering
- White scram lights — NOT illuminated
- Control Rods — Inserted
- MSIVs — Closed
- Drywell pressure — 1.58 psig and rising slowly
- Suppression Pool temperature — 88°F and rising slowly
- Reactor Building pressure — -0.07 inches of water

Assuming no procedures have been entered yet, which of the following procedures must be entered first?

A. N2-EOP-RPV, RPV Control

B. N2-EOP-C5, Failure to Scram

C. N2-EOP-PC, Primary Containment Control

D. N2-EOP-SC, Secondary Containment Control

Proposed Answer: A

Explanation (Optional):

A. Correct – Reactor pressure has exceeded the EOP entry condition of 1052 psig.

B. Incorrect – EOP-RPV must be entered because of high reactor pressure (Rx pressure >1052 psig). RPV control directs entry into C5 with a failure to scram. However in this case reactor power is <1% power and lowering with control rods inserted, it could be assumed that the back-up scram valves caused control rod insertion.

C. Incorrect – There are no EOP-PC entry conditions at this time.

D. Incorrect – There are no EOP-SC entry conditions at this time.

Technical Reference(s): N2-EOP-RPV (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295001 2.4.11	
Importance Rating	4.0	

Emergency Procedures / Plan: Knowledge of abnormal condition procedures. (Partial or Complete Loss of Forced Core Flow Circulation)

Proposed Question: RO Question # 56

The plant was operating at 100% power when the "A" Recirculation Pump tripped. The following conditions exist:

- APRMs are cycling between 55% and 66% power
- The average Core Flow is 54 Mlbs/hr

In accordance with N2-SOP-29, Sudden Reduction in Core Flow which one of the following actions is required?

A. Insert the first four cram rods.

B. Place the Mode Switch in Shutdown.

C. Raise core flow with the "B" Recirculation Pump to exit the Exit Region.

D. Determine if the core is within the OPRM Stability Dependent Region.

Proposed Answer: B

Explanation (Optional):

A. Incorrect – This would occur if oscillations and P/F were within limits.

B. Correct – With peak APRM oscillations greater than 10% the reactor must be scrammed per N2-SOP-29. N2-SOP-101C, directs placing the mode switch in shutdown.

C. Incorrect - With peak APRM oscillations greater than 10% the reactor must be scrammed and probably the "B" pump is running at or above its amperage limit.

D. Incorrect – This step would only be performed if power oscillations were within limits.

Technical Reference(s): N2-SOP-29 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: Single and two loop power to flow maps

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295031 EK2.14	
Importance Rating	3.9	

Knowledge of the interrelations between REACTOR LOW WATER LEVEL and the following: Emergency generators

Proposed Question: RO Question # 57

The plant is at 100% power with 2SWP*P1A, B, C, and D in service when the following occurs:

- A loss of feedwater results in RPV water level falling to +10 inches
- Offsite Line 6 is lost due to severe weather

Which one of the following identifies the start sequence for the major loads on 2ENS*SWG103 following re-energization of this bus from the Division 2 Diesel Generator?

A. SWP*P1B, RHS*P1B, RHS*P1C.

B. RHS*P1B, RHS*P1C, SWP*P1B.

C. RHS*P1A, CSL*P1, SWP*P1A, SWP*P1B.

D. RHS*P1B, RHS*P1C, SWP*P1B, SWP*P1D.

Proposed Answer: B

Explanation (Optional):

A. Incorrect – Service water pump starts last.

B. Correct - RHS*P1B and P1C sequence on 1 second after the Diesel Generator output breaker closes, in the event of a LOCA signal. Divisional Service Water Pumps will trip. Once the Divisional EDG is running, the Service water pumps will begin sequencing on in 32 seconds.

C. Incorrect – RHS*P1A, CSL*P1 are the opposite division.

D. Incorrect – SWP*P1D does not receive a start signal.

Technical Reference(s): N2-SOP-03, Sect. 5.2, pg 6 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Electrical sys, ID: N2-101-264000-RBO05-Q07

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	1	
K/A #	295023 AA2.02	
Importance Rating	3.4	

Ability to determine and/or interpret the following as they apply to REFUELING ACCIDENTS : Fuel pool level

Proposed Question: RO Question # 58

The plant is in MODE 5 with the Spent Fuel Pool/Cavity Gates installed. Preparations are underway to flood the reactor cavity. The following annunciators alarm in the Main Control Room:

- 875111, "SPENT FUEL POOL LEVEL HIGH/LOW"
- 873317, "DIVISION I SPENT FUEL POOL LEVEL LOW"
- 875117, "DIVISION II SPENT FUEL POOL LEVEL LOW"

Which one of the following systems must be used to keep the fuel bundles covered?

A. Feedwater (FWS) and Condensate (CNM)

B. Service Water (SWP) and Fire Water (FPW)

C. Low Pressure Core Spray (CSL) and Low Pressure Coolant Injection (LPCI)

D. High Pressure Core Spray (CSH) and Low Pressure Coolant Injection (LPCI)

Proposed Answer: B

Explanation (Optional):

A. Incorrect- injection to the cavity will not add water to the pool.

B. Correct – Fuel Pool level is lowering, the reactor cavity level is not threatened and injecting to the cavity will not add water to the pool. SW can be injected per Att 1, Sect 4 and Fire Water Att 1, Sect 5.

C. Incorrect- injection to the cavity will not add water to the pool.

D. Incorrect- injection to the cavity will not add water to the pool.

Technical Reference(s): N2-SOP-39, Att 1. Sect 4 & 5. (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # EOP SOP Ques # 59

Modified Bank # (Note changes or attach parent)

New =

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 8

55.43

Changed answer from CNS and MWS to SWP and FWP.

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	2	
K/A #	295020 AK1.05	
Importance Rating	3.3	

Knowledge of the operational implications of the following concepts as they apply to INADVERTENT CONTAINMENT ISOLATION: Loss of drywell/containment cooling

Proposed Question: RO Question # 59

While operating at 100% power a malfunction within the PCIS system causes an inadvertent isolation of the Reactor Building Closed Loop Cooling Water to Drywell Coolers. Which one of the following is the operational implication of this isolation if NO operator actions are taken?

A. The Drywell Cooling Fans will trip and the plant will scram on a subsequent high drywell pressure.

B. The Drywell Cooling Fans will trip and drywell temperature will slowly rise however no scram will occur.

C. The Drywell Cooling Fans will continue to operate and drywell temperature will slowly rise however no scram will occur.

D. The Drywell Cooling Fans will continue to operate and the plant must be manually scrammed to comply with drywell temperature requirements.

Proposed Answer: A

Explanation (Optional):

A. Correct – An isolation of the RBCLC cooling water valves will cause an automatic trip of the Drywell Cooling Fans. If all drywell cooling is lost during power operation, the drywell temperature/pressure rise will be rapid and immediate action should be taken to prevent a high drywell pressure signal (1.68 psig) from occurring.

B. Incorrect – Drywell cooling must be restored or a reactor scram on high drywell pressure will occur.

C. Incorrect – Drywell cooling must be restored or a reactor scram on high drywell pressure will occur.

D. Incorrect – T.S. 3.6.1.5 limits drywell temperature to 150°F, however if this temperature cannot be maintained a shutdown is required. There are no requirements to scram on high drywell temperature.

Technical Reference(s): N2-OP-60, B.3, pg 3, P&L 3, pg 4 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	2	
K/A #	295034 EK2.06	
Importance Rating	3.9	

Knowledge of the interrelations between SECONDARY CONTAINMENT VENTILATION HIGH RADIATION and the following: PCIS/NSSSS: Plant-Specific

Proposed Question: RO Question # 60

A Plant startup is in progress with the following:

- Reactor water level is 180 inches and stable
- Drywell pressure is 14.4 psia
- Drywell high flow nitrogen purge is in progress

Then Reactor Building Ventilation isolates on high radiation

Which one of the following is required by N2-OP-61A, Primary Containment Ventilation Purge and Nitrogen System?

A. Secure the nitrogen purge to prevent raising Drywell pressure.

B. Transfer from high flow to low flow nitrogen purge to maintain nitrogen purge.

C. Verify GTS*AOV101 is closed and align GTS flow through GTS*SOV102.

D. Verify GTS*SOV102 is closed and align GTS flow through GTS*AOV101.

Proposed Answer: A

Explanation (Optional):

A. Correct – The isolation would isolate the GTS exhaust path from the primary containment while the nitrogen addition would continue. To prevent raising Drywell pressure the nitrogen addition must be secured.

B. Incorrect - Nitrogen addition would continue and pressurize the Primary Containment.

C. Incorrect - The GTS exhaust path from the primary containment would be isolated.

D. Incorrect - The GTS*PV5's would work in auto with no additional equipment malfunctions and therefore the GTS*PV5's would not be required to be placed in manual.

Technical Reference(s): N2-OP-61A, Sect. B, pg 7 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # Containment Sys, ID: N2-223003-RBO-10-Q01

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 9

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	2	
K/A #	295014 AK3.01	
Importance Rating	4.1	

Knowledge of the reasons for the following responses as they apply to INADVERTENT REACTIVITY ADDITION: Reactor SCRAM

Proposed Question: RO Question # 61

The plant is operating at 90% power, with the following:

0700	Annunciator 603443 CONTROL ROD DRIFT alarms
0700	Control Rod 22-43 is observed to be at position 12 then 14 and still moving
0700	Appropriate SOPs are entered by the crew
0703	Control Rod 22-43 is being moved to the fully inserted position
0703	Control Rod 18-27 is observed to be at position 02 then 04 and still moving

Which one of the following describes (1) the actions required by N2-SOP-08, Unplanned Power Changes and (2) the reasons for those actions?

A. (1) Fully insert all moving control rods.
(2) Terminate the power rise.

B. (1) Place the Mode Switch to SHUTDOWN.
(2) Terminate the power rise.

C. (1) Reduce power to about 85%.
(2) Provide adequate margin to Thermal Limits.

D. (1) Fully insert and disarm the moving control rods.
(2) Comply with Tech Specs.

Proposed Answer: B

Explanation (Optional):

A. Incorrect - Drifting rods are not inserted to stop power rise. They are inserted to be

disarmed such that Tech Specs compliance is maintained.

B. Correct - Per N2-SOP-8, more than one control rod drifting requires a reactor scram to terminate the power rise.

C. Incorrect. Power reduction is appropriate but only if the scram was not required for multiple rods drifting.

D. Incorrect - If only one rod were drifting this action is correct. With multiple rods drifting a scram is required.

Technical Reference(s): N2-SOP-08 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # SOP-EOP Questions # 20

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	
	Group #	2	
	K/A #	295032 EA1.01	
	Importance Rating	3.6	

Ability to operate and/or monitor the following as they apply to HIGH SECONDARY CONTAINMENT AREA TEMPERATURE: Area temperature monitoring system

Proposed Question: RO Question # 62

The plant is operating at 100% power when Annunciator 601157 REACTOR BLDG GENERAL AREAS TEMP HIGH alarms

Upon investigation it is determined

- Trip unit E31-N619A & B, RX BLDG RADIOACTIVE PIPE CHASE EL 292 FT are reading 215°F
- Trip unit E31-N621A & B, RX BLDG RADIOACTIVE PIPE CHASE EL 306 FT are reading 213°F
- Various fire alarms are in alarm
- No radiation monitors are in alarm
- Secondary Containment Temperatures are 105°F and rising slowly

Using the N2-EOP-6, Attachment 28 and the Temperature leg of N2-EOP-SC. Which one of the following actions is required?

A. Perform a plant shut down to cold shutdown conditions.

B. Enter N2-SOP-101C, scram the reactor and fully open all 5 Turbine Bypass Valves.

C. Enter N2-SOP-101C, scram the reactor and EOP-C2 and perform an RPV blowdown.

D. Dispatch an operator to the Reactor Building HVAC Panel to operate all available area coolers only.

Proposed Answer: A

Explanation (Optional):

A. Correct - The entry condition for EOP-SC is any area temperature above an isolation setpoint. Under this condition the 2 trip units are in two different areas, therefore EOP-SC step SC-5 is met requiring a plant shutdown.

B. Incorrect - There is no cue that a primary system is discharging into the area. Blowdown Values does not yet exist, therefore RPV blowdown is not allowed.

C. Incorrect - There is no cue that a primary system is discharging into the area. Blowdown Values does not yet exist, therefore RPV blowdown is not allowed.

D. Incorrect - EOP-SC step SC-5 is met requiring a plant shutdown.

Technical Reference(s): N2-ARP-01, 601157
N2-EOP-SC
N2-EOP-06, Att 28
(Attach if not previously provided)

Proposed References to be provided to applicants during examination: N2-EOP-6, Att 28
N2-EOP-SC, Temp Leg and Table S only.

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Added no radiation alarms in alarm

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	2	
K/A #	295002 AA2.04	
Importance Rating	2.8	

Ability to determine and/or interpret the following as they apply to LOSS OF MAIN CONDENSER VACUUM: Offgas system flow

Proposed Question: RO Question # 63

With the plant operating at 100% power which one of the following is an indication of Main Condenser air in-leakage?

A. Rising Offgas System flow and rising offgas system pressure.

B. Lowering Offgas System flow and lowering offgas system pressure.

C. Rising Offgas System flow and lowering offgas system pressure.

D. Lowering Offgas System flow and rising offgas system pressure.

Proposed Answer: A

Explanation (Optional):

A. Correct - While operating, the vacuum will lower either due to a malfunction in the Offgas System or due to air in-leakage. If air in-leakage occurs, Offgas system flows will go up and offgas pressure will rise.

B. Incorrect – Both offgas pressure and air flow increase.

C. Incorrect – Both offgas pressure and air flow increase.

D. Incorrect – Both offgas pressure and air flow increase.

Technical Reference(s): SOP-9, Discussion Section
Offgas Student guide, (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7, 11

55.43

Comments:
Revised question

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	2	
K/A #	295009 2.1.31	
Importance Rating	4.6	

Conduct of Operations: Ability to locate control room switches, controls, and indications, and to determine that they correctly reflect the desired plant lineup. (Low Reactor Water Level)

Proposed Question: RO Question # 64

During the implementation of N2-EOP-C5, Failure to Scram, operators are directed to lower RPV water level by terminating and preventing ALL RPV injection.

Which one of the following correctly reflects this lineup?

A. Feedwater Flow Controllers remain in AUTO with controllers set at 0%. Arm and depress the LPCI A/LPCS and LPCI B & C MANUAL INITIATION Pushbuttons, and place these pumps control switches in Pull-To-lock.

B. Place all Feedwater Flow Controllers in MANUAL set at 0%. Verify NO LPCI A/LPCS initiation signal present, THEN Place the CSL and RHS Pumps control switches in Pull-To-lock AND Verify their injection valves closed.

C. Feedwater Flow Controllers remain in AUTO with controllers set at 0%. Verify NO LPCI A/LPCS initiation signal present, THEN Place the CSL and RHS Pumps control switches in Pull-To-lock AND Verify their injection valves closed.

D. Place all Feedwater Flow Controllers in MANUAL set at 0%. Arm and depress the LPCI A/LPCS and LPCI B & C MANUAL INITIATION Pushbuttons, and place these pumps control switches in Pull-To-lock Verify their injection valves closed.

Proposed Answer: D

Explanation (Optional):

A. Incorrect – FDW controllers are placed in MANUAL and the injection low pressure ECCS injection valves are closed.

B. Incorrect – The operators must verify a LPCI A/LPCS initiation signal present and if it is not present manually initiate injection by depressing the LPCI A/LPCS and LPCI B & C MANUAL INITIATION Pushbuttons.

C. Incorrect - FDW controllers are placed in MANUAL and the operators must verify a LPCI A/LPCS initiation signal present and if it is not present manually initiate injection by depressing the LPCI A/LPCS and LPCI B & C MANUAL INITIATION Pushbuttons.

D. Correct – IAW EOP-6, Att 32, All Feedwater controllers are in placed or verified in MANUAL set at 0%. Arm and depress the LPCI A/LPCS and LPCI B & C MANUAL INITIATION Pushbuttons, and place these pumps control switches in Pull-To-lock Verify their injection valves closed.

Technical Reference(s): N2-EOP-6, Att 32, pg 565 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	1	
Group #	2	
K/A #	295010 AK1.03	
Importance Rating	3.2	

Knowledge of the operational implications of the following concepts as they apply to HIGH DRYWELL PRESSURE : Temperature increases

Proposed Question: RO Question # 65

The plant has experienced a LOCA with the following:

- Drywell pressure is 13.2 psig
- Drywell Temperature has risen above 350°F

Regarding Drywell Sprays, which one of the following is in compliance with the EOPs?

A. Continue all actions to initiate Drywell Sprays prior to emergency systems becoming inoperable.

B. Continue all actions to initiate Drywell Sprays to prevent exceeding Primary Containment limits.

C. Do NOT initiate Drywell Sprays to prevent violation of the Drywell Floor Upward Pressure Limit.

D. Do NOT initiate Drywell Sprays to prevent exceeding the primary containment negative pressure capability.

Proposed Answer: D

Explanation (Optional):

A. Incorrect - Since we are in the bad region of the Drywell Spray Initiation Limit curve you would not spray the drywell.

B. Incorrect - Since we are in the bad region of the Drywell Spray Initiation Limit curve you would not spray the drywell.

C. Incorrect - The relief lines limit the upward pressure between the Suppression Chamber and the Drywell to a less than the design value of 10 psid.

D. Correct - The entry conditions of EOP-PC are met. With DW Temp above 350°F, and DW pressure at 13.2 psig, you are in the BAD region of the Drywell Spray Initiation Limit curve. The DWSIL is the highest drywell temperature at which the initiation of drywell sprays will not result in evaporative cooling lowering the primary containment pressure below 0 psig.

Technical Reference(s): DWSIL curve
EOP bases, pg (Attach if not previously provided)

Proposed References to be provided to applicants during examination: DWSIL curve

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Note the highest temperature readable on the drywell temperature recorder is 350°F.

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	3	
Group #	1	
K/A #	G1 2.1.26	
Importance Rating	3.4	

Knowledge of industrial safety procedures (such as rotating equipment, electrical, high temperature, high pressure, caustic, chlorine, oxygen and hydrogen).

Proposed Question: RO Question # 66

In accordance with CNG-OPS- 1.01-1007, CLEARANCE AND SAFETY TAGGING, which one of the following conditions would require double valve protection?

Any system where the isolated portion of the system contains ...

A. conditions equal to or greater than 200 psig or 500°F.

B. conditions equal to or greater than 500 psig or 200°F.

C. radioactive concentrations in excess of 10CFR20 Appendix C limits and/or temperatures equal to or greater than 212°F.

D. radioactive concentrations in excess of 10CFR20 Appendix E limits and/or temperatures equal to or greater than 212°F.

Proposed Answer: B

Explanation (Optional):

A. Incorrect – The values are greater than 500 psig or 200°F.

B. Correct - Double valve protection should be used for systems containing explosive or oxidizing gases, and systems that are operating with a temperature greater than 200°F, or pressure greater than 500 psig, if available.

C. Incorrect – The values are greater than 200°F and there are no restrictions based on radiation.

D. Incorrect – The values are greater than 200°F and there are no restrictions based on radiation.

Technical Reference(s): CNG-OPS- 1.01-1007, Sect. 5.1.R, pg 25 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	3	
Group #	1	
K/A #	G1 2.1.32	
Importance Rating	3.8	

Conduct of Operations: Ability to explain and apply all system limits and precautions.

Proposed Question: RO Question # 67

Which one of the following identifies the reason for securing the H_2 Recombiners when H_2 concentration rises to 5% per N2-EOP-PCH, Hydrogen Control?

H_2 Recombiners are required to be shutdown to prevent damage from …

A. excessive recombiner chamber temperatures

B. excessive recombiner chamber moisture

C. insufficient hydrogen and oxygen recombination

D. insufficient hydrogen and oxygen flow.

Proposed Answer: A

Explanation (Optional):

A. Correct - per step 32 of N2-EOP-PCH, shutdown H_2 Recombiners if O_2 and H_2 concentrations > 5% because recombiner damage can result from excessive temperatures at the higher recombination rate.

B. Incorrect - wrong reason, this would result in low temperatures.

C. Incorrect - wrong reason, this would result in low temperatures.

D. Incorrect - wrong reason, this would result in low temperatures.

Technical Reference(s): N2-EOP-PCH & Bases, N2-OP-62, D.7.0 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # X

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 7

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	3	
Group #	2	
K/A #	G2 2.2.40	
Importance Rating	3.4	

Equipment Controls: Ability to apply technical specifications for a system.

Proposed Question: RO Question # 68

The plant is operating at full power while performing N2-OSP-CSH-Q001, High Pressure Core Spray Valve Operability Test.

During the test the recorded time to open 2CSH*MOV105, MINIMUM FLOW BYPASS VLV, was 11.5 seconds.

The limits shown in N2-OSP-CSH-Q001 are:

Opening time: sec (5.1 and 8.5 sec)
{ 4.18 and 10 sec}

Which one of the following is required?

A. Declare the valve inoperable and enter an LCO effective from the time the valve was determined to be inoperable.

B. Close and then immediately retest the valve. Only if the valve fails a second time is it considered inoperable.

C. Declare the valve inoperable and enter an LCO effective from the last time the surveillance test was conducted successfully.

D. Close and then immediately retest the valve. However for Technical Specifications purposes it is considered inoperable.

Proposed Answer: A

Explanation (Optional):

A. Correct - Limiting Stroke Time {LS} values per the Inservice Pump and Valve Program Plan and ASME/ANSI OMa-1988 Part 10, 4.2.1.4 are shown as "{}", such as {<30 sec}, and are the Limits beyond which a valve shall be considered INOPERABLE.

B. Incorrect - IST values shown as {} are the Limiting Stroke Time Values. Valve times exceeding this range are INOPERABLE, retest is not allowed.

C. Incorrect - Equipment determined to have been inoperable at some previous time shall be declared inoperable at the time of discovery.

D. Incorrect - IST values shown as {} are the Limiting Stroke Time Values. Valve times exceeding this range are INOPERABLE, retest is not allowed.

Technical Reference(s): CNG-OP-1.01-1002, Sect. 3.9, pg 10
N2-OSP-CSH-Q001, Sect. 4.9, pg 3 and Sect 8.3.1, pg 5 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #
Modified Bank # (Note changes or attach parent)
New X

Question History: Last NRC Exam:

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

10 CFR Part 55 Content: 55.41 10
55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	3	
Group #	2	
K/A #	G2 2.2.42	
Importance Rating	3.9	

Equipment Control: Ability to recognize system parameters that are entry-level conditions for Technical Specifications.

Proposed Question: RO Question # 69

The plant is operating at 100% power when it is determined that the outside air temperature is 101°F.

Which one of the following actions is required by N2-OP-57, Diesel Generator Building Ventilation System?

A. Place both trains of Diesel Generator Building Ventilation in service.

B. An hourly diesel governor temperature check must be performed.

C. Enter Technical Specifications and declare Division I and II Diesel Generators inoperable.

D. Prior to a diesel generator room temperature reaching 103°F, the associated diesel generator must be started per N2-OP-100A (B).

Proposed Answer: C

Explanation (Optional):

A. Incorrect – there is no requirement related to placing both trains of DG HVAC in service on high outside air temperatures. There is a requirement that for outside air temperatures, as measured at 30′ on the Met Tower, above 77°F for DIV I and DIV II, or above 81°F for DIV III, both Standby Exhaust Fans per diesel generator are required to be OPERABLE with their control switches in Normal-after-STOP.

B. Incorrect – An hourly room temperature check must be done during the period of time a diesel generator room temperature is below 65°F.

C. Correct - IAW N2-OP-57, 3.0 If the outdoor air temperature exceeds 100°F, then Div I and Div II diesels shall be declared inoperable.

D. Incorrect – The procedure requires starting the DG on low temperatures. Prior to a diesel generator room temperature reaching 40°F, the associated diesel generator must be started per N2-OP-100A (B) or declared inoperable.

Technical Reference(s): N2-OP-57, P& L 3.0, pg 3 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	3	
Group #	3	
K/A #	G3 2.3.4	
Importance Rating	3.2	

Radiation Control: Knowledge of radiation exposure limits under normal or emergency conditions.

Proposed Question: RO Question # 70

The plant is in a refuel outage, with the following:

- A radiation accident has occurred on the refueling floor resulting in serious injury to a worker on the Refueling Platform.
- The worker is still on the Refueling Platform.
- Radiation levels in the area of the injured operator are 4500 mRem/hr.
- Emergency exposure limit for life saving operations has been authorized.

Which one of the following is the maximum stay time for the individual providing life saving assistance to ensure the limits established in EPIP-EPP-15 Emergency Health Physics Procedure are not exceeded?

A. 2.22 hrs

B. 3.33 hrs

C. 4.44 hrs

D. 5.55 hrs

Proposed Answer: D

Explanation (Optional):

A. Incorrect – This response is based on a limit of a limit of 10000 mr.

B. Incorrect – This response is based on a limit of a limit of 15000 mr.

C. Incorrect – This response is based on a limit of a limit of 20000 mr.

D. Correct - Based on correct limit of 25 Rem limit (life saving). 25R/4.5R per hr = 5.55 hours.

Technical Reference(s): EPIP-EPP-15, Att1 step 1.2 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: O3-OPS-006-350-3-33, EO-1.5 (As available)

Question Source: Bank # 2008 Audit Exam # 71

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 12

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	3	
Group #	3	
K/A #	G3 2.3.14	
Importance Rating	3.4	

Radiation Control: Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities.

Proposed Question: RO Question # 71

The plant is shutdown for refueling with personnel working in the Drywell when a Traversing In-Core Probe (TIP) trace is initiated.

Which of the following hazards is created by this action?

A. High radiation exposures to personnel in the Drywell.

B. Damage to the TIP machine if fuel movement is in progress.

C. High radiation exposures to personnel on the Refuel Floor.

D. Excessive drywell leakage when the TIP isolation valve is opened.

Proposed Answer: A

Explanation (Optional):

A. Correct – While operating TIP machines, high radiation hazards can exist in the following places:
- TIP Drive Room (Rx Bldg. El. 250)
- TIP Shield Room (Rx Bldg. El. 250)
- Drywell (If open for personnel access)

B. Incorrect – The TIP machine may be damaged if work was being performed on the LPRM strings, but fuel movement will have no affect.

C. Incorrect – There would be no change of radiation on the Refuel Floor because of water shielding in the reactor and reactor cavity.

D. Incorrect – The TIP system is a closed system there is no pathway for water to leak from the vessel into the drywell.

Technical Reference(s): N2-OP-94, Sect. F, warning pg 10 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 9

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	3	
Group #	4	
K/A #	G4 2.4.42	
Importance Rating	2.6	

Emergency Procedures/Plan: Knowledge of emergency response facilities.

Proposed Question: RO Question # 72

Following a NMP Unit 2 station blackout a Site Area Emergency has been declared.

Following a site evacuation and personnel accountability check it is determined that two technicians are still missing in the Reactor Building.

As the CRO directed to conduct the EPIP-EPP-03, Att. 1 Chief Shift Operator (CSO) Search / Rescue Operations Checklist, where will you direct the Fire Brigade to report?

A. Control Room

B. Operational Support Center

C. Technical Support Center

D. Radiation Control Checkpoint

Proposed Answer: B

Explanation (Optional):

A. Incorrect – The fire brigade would only report to the control room if the OSC was NOT manned. During a site emergency the OSC is manned.

B. Correct - If the OSC is operational and a 10CFR50 Appendix R fire is NOT in progress The Fire Brigade shall report to the OSC for Search and Rescue Operations.

C. Incorrect - The Fire Brigade shall report to the OSC for Search and Rescue Operations.

D. Incorrect - The Fire Brigade shall report to the OSC for Search and Rescue Operations.

Technical Reference(s): EPIP-EPP-03, Att 1 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	3	
Group #	4	
K/A #	G4 2.4.28	
Importance Rating	3.2	

Emergency Procedures/Plan: Knowledge of procedures relating to a security event. (non-safeguards information)

Proposed Question: RO Question # 73

In accordance with N2-SOP-76, Security Events, which one of the following correctly identifies a "Significant Threat" to the facility?

A. An organized group of protesters have been attempting to block incoming employee traffic.

B. Communication from the NRC that the Homeland Security Advisory System is at the "Red Level".

C. Communication from NORAD that an airliner is off its designated course and headed toward the site.

D. A hang glider that has flown over the protected area boundary and the pilot of which has landed on the Reactor Building.

Proposed Answer: C

Explanation (Optional):

A. Incorrect – There is not a high potential for significant structural damage and personnel injury.

B. Incorrect – There is no information that indicates the Nine Mile Point site is directly threatened.

C. Correct - A significant threat refers to unconfirmed information that indicates the Nine Mile Point site is directly threatened with a high potential for significant structural damage and personnel injury.

D. Incorrect – There is not a high potential for significant structural damage and personnel injury.

Technical Reference(s): N2-SOP-76 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # SOP & EOP Bank # 83

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	3	
Group #	4	
K/A #	G4 2.4.40	
Importance Rating	2.7	

Emergency Procedures/Plan: Knowledge of the SRO's responsibilities in emergency plan implementation.

Proposed Question: RO Question # 74

During a plant emergency the SM declares a General Emergency.

Which of the following must accompany this declaration within 15 minutes?

A. Ensure turnover of NRC notifications to TSC ENS Communicator.

B. Authorization for emergency workers to exceed normal radiation exposure limits.

C. Ensure turn-over of State/County Notifications to EOF Communications Coordinator.

D. Ensure emergency notifications of the event are made to the State and County.

Proposed Answer: D

Explanation (Optional):

A. Incorrect - ensure turn-over of State/County Notifications to EOF Communications Coordinator.

B. Incorrect – This would only apply when emergency exposures were required.

C. Incorrect – This is only done when the SM is notified that the TSC is activated which may not occur for some time. Furthermore if a classification is made in the control room, notifications should be made from the control room until all are completed for that classification.

D. Correct – IAW EPIP-EPP-18 "SM/ED checklist" the note prior to step 15 states that declaration of a GE require notification of NYS and Oswego County within 15 minutes.

Technical Reference(s): EPIP-EPP-18 "SM/ED checklist" pg 2 of 4 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41 10

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: R

Examination Outline Cross-reference:

Level	RO	SRO
Tier #	3	
Group #	3	
K/A #	G3 2.3.13	
Importance Rating	3.4	

Radiation Control: Knowledge of Radiological Safety Procedures pertaining to licensed operator duties, such as response to radiation monitor alarms, containment entry requirements, fuel handling responsibilities, access to locked high radiation areas, aligning filters, etc.

Proposed Question: RO Question # 75

The plant is at 100% power. Irradiated fuel is being arranged in the fuel pool to support receipt of new fuel when annunciator 851254, PROCESS AIRBORNE RADN MON ACTIVATED, is received.

DRMS indicates "red" for the following:

- 2HVR-CAB14A-1, HVR ABOVE REFUEL FLR
- 2HVR-CAB14B-1, HVR ABOVE REFUEL FLR

Which one of the following describes the required operator action(s) in N2-ARP-01, Control Room Alarm Response Procedures?

A. Manually isolate the above refuel floor ventilation dampers. Start GTS and unit cooler 2HVR*UC413B.

B. Manually isolate the above <u>and</u> below refuel floor ventilation dampers. Start GTS and unit cooler 2HVR*UC413B.

C. Verify the above <u>and</u> below refuel floor ventilation dampers are isolated, both GTS and unit cooler 2HVR*UC413B are operating.

D. Verify the above refuel floor ventilation dampers are isolated and both GTS are operating. Start unit cooler 2HVR*UC413B.

Proposed Answer: C

Explanation (Optional):

A. Incorrect - The above and below refuel floor ventilation dampers automatically close, and GTS and unit cooler 2HVR*UC413B automatically start.

B. Incorrect - The above and below refuel floor ventilation dampers automatically close, and GTS and unit cooler 2HVR*UC413B automatically start.

C. Correct - per ARP 851254 – On High rad level verify automatic response listed at step a. – this auto isolates dampers and starts GTS.

D. Incorrect - The below refuel floor ventilation dampers automatically close and unit cooler 2HVR*UC413B automatically starts.

Technical Reference(s): ARP 851254 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: O2-OPS-001-288-2-03, 4c, 7d, 7e (As available)

Question Source: Bank # X, 2008 Audit Exam # 73

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 11

55.43

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		1
Group #		1
K/A #	295006 AA2.01	
Importance Rating		4.6

Ability to determine and/or interpret the following as they apply to SCRAM : Reactor power

Proposed Question: SRO Question # 76

The plant was operating at power when a failure of the EHC system occurred. The following conditions exist:

- The Reactor automatically scrammed on high reactor pressure.
- Several Control Rods failed to insert.
- Both Recirculation Pumps shifted to minimum speed and flow is oscillating.
- APRMs are oscillating and reactor power is unknown.
- Rx water level is oscillating between 40 and 80 inches.
- Reactor pressure is oscillating between 830 and 1020 psig.
- MSIVs are open.

Which one of the following is required?

A. Enter N2-EOP-C5 and trip the recirculation pumps.

B. Enter N2-EOP-C5 and manually isolate the MSIVs.

C. Enter N2-EOP-RPV and manually isolate the MSIVs.

D. Enter N2-EOP-RPV and the Scram Procedure N2-SOP-101C.

Proposed Answer: A.

Explanation (Optional):

A. Correct – IAW EOP-C5, Step Q-5 if power is unknown the Recirculation Pumps are tripped.

B. Incorrect – IAW EOP-C5, Step P-5 the crew should attempt to stabilize pressure, there

is no direction to close the MSIVs. Attempt to stabilize pressure using EHC Controls (Bypass Opening Jack) or SRVs.

C. Incorrect – Entry into EOP-C5 is required because power is unknown. There is no guidance to isolate the MSIVs. The crew should attempt to stabilize pressure using EHC controls.

D. Incorrect - Entry into EOP-C5 is required because power is unknown.

Technical Reference(s): N2-EOP-C5, Q-5 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41

55.43 5

Comments:

New question replaced 6-22-09

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		1
Group #		1
K/A #	295026 EA2.03	
Importance Rating		4.0

Ability to determine and/or interpret the following as they apply to SUPPRESSION POOL HIGH WATER TEMPERATURE: Reactor pressure

Proposed Question: SRO Question # 77

A lightning strike in Scriba Switchyard caused a catastrophic failure of breaker R230 and trip of breakers R925, R50 and R60. The following conditions exist at the station 10 minutes later:

- Division I Diesel started and tripped
- Division II Diesel is out of service for maintenance
- Division III Diesel started and energized its switchgear
- Suppression Pool level is 200 feet and stable
- Suppression Pool temperature is 160°F and rising due to SRV actuation
- RPV pressure is 600 psig and stable

Which of the following is the correct pressure control strategy under these conditions?

A. Enter N2-EOP-C2 and open seven ADS valves.

B. Remain in N2-EOP-RPV and depressurize using bypass valves.

C. Remain in N2-EOP-RPV and control pressure 500-1000 psig band using sustained SRV opening.

D. Remain in N2-EOP-PC and N2-EOP-RPV and maintain pressure below 1052 psig while cooling down.

Proposed Answer: C

Explanation (Optional):

A. Incorrect – This would be correct if the plant was not in a station blackout because the HCTL of N2-EOP-PC is violated, however under these conditions the blackout HCTL is

used and pressure is controlled under the normal band.

B. Incorrect - Under blackout conditions the blackout HCTL is used and pressure is controlled under the normal band. Also the main condenser is not available.

C. Correct - This is an SBO condition because no credit is taken for the Div 3 EDG in the SBO analysis. The HCTL SBO curve from EOP-6, Att 29 is used to determine that HCTL has not been exceeded. The normal pressure control band from the TMG is applicable.

D. Incorrect – This is the pressure control range when BPV are available. The main condenser is not available.

Technical Reference(s): N2-EOP-6, Att 29
N2-EOP-RPV (Attach if not previously provided)

Proposed References to be provided to applicants during examination: N2-EOP-PC HCTL curve only.
N2-EOP-6, Att 29, Alternate HCTL curves only.

Learning Objective: (As available)

Question Source: Bank # SOP & EOP Bank # 2
Modified Bank # (Note changes or attach parent)
New

Question History: Last NRC Exam:

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

10 CFR Part 55 Content: 55.41
55.43 5

Comments:
Modified question somewhat by changing the distracters

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		1
Group #		1
K/A #	295018 AA2.04	
Importance Rating		2.9

Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER: System flow

Proposed Question: SRO Question # 78

The Plant is in Mode 5 (Refuel) with the following conditions:

- Fuel moves are in progress.
- Div 1 Systems including Service Water are inoperable for the Div 1 window work.
- The Div 1 SWP subsystem is tagged out and 2SWP*MOV50A is closed and tagged
- Div 2 Systems are Operable.
- Service Water Pumps B and D are running.
- Service Water header pressure is 60 psig and has been at this pressure for 2 hrs.

Given these conditions which one of the following actions are required by Technical Specifications?

A. Start the third Div 2 service water pump within 1 hour.

B. Immediately isolate the non-essential header isolations.

C. Restore Div 1 SWP subsystem to service within 1 hour.

D. Immediately declare associated equipment supported by Div 2 SWP inoperable.

Proposed Answer: D

Explanation (Optional):

A. Incorrect – Must immediately declare the components supported by SWP inoperable.

B. Incorrect – This may or may not restore system pressure and may not be possible based on equipment in service, however because the system has been below the

minimum pressure (flow) for two hours the components supported by SWP must be declared inoperable.

C. Incorrect - Must immediately declare the components supported by SWP inoperable.

D. Correct - N2-OP-11, P&L 14.2 gives operational requirements for SWP during modes 4 and 5. If less than 4 operable service water pumps are running service water header pressure must be maintained greater than 63.5 psig. If the header pressure is less than 63.5 for greater than one hour we are required to immediately declare the components supported by SWP inoperable.

Technical Reference(s): N2-OP-11, P&L 14.2, pgs 15 & 16
TRM 3.7.1
TS 3.7.1
(Attach if not previously provided)

Proposed References to be provided to applicants during examination: TRM 3.7.1
TS 3.7.1

Learning Objective: (As available)

Question Source: Bank # Water Sys ID: N2-276000-RBO14-Q04
Modified Bank # (Note changes or attach parent)
New

Question History: Last NRC Exam:

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

10 CFR Part 55 Content: 55.41
55.43 2

Comments:
Minor revisions to stem 6-22-09

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		1
Group #		1
K/A #	295037 2.4.50	
Importance Rating		4.0

Emergency Procedures / Plan: Ability to verify system alarm setpoints and operate controls identified in the alarm response manual. (SCRAM Conditions Present and Reactor Power Above APRM Downscale or Unknown)

Proposed Question: SRO Question # 79

The plant is operating at 100% power when the following occur:

- Annunciator 603109, RPS A DISCH VOLUME HIGH LEVEL TRIP alarms
- Annunciator 603409, RPS B DISCH VOLUME HIGH LEVEL TRIP alarms

Upon investigation it is determined that:

- The level in the Scram Discharge Volume (SDV) is 49 inches and slowly rising.
- One of the SDV high level SCRAM bypass switches on 2CEC*PNL603 is in bypass.
- The SDV Drain Valves AOV123 and AOV130 are closed

Assuming no procedures have been entered yet, which one of the following is required?

A. Enter N2-SOP-97, RPS Failures, Section H.1.0, Tripping Of An Inoperable Protective System Channel

B. Place the Reactor Mode Switch in SHUTDOWN and enter N2-EOP-RPV, RPV Control.

C. Arm and depress both manual scram pushbuttons, and enter N2-SOP-97, RPS Failures.

D. Enter N2-ARP-01, check the SCRAM discharge volume level indicating switches on 2CEC*PNL609 and PNL611 to verify that NO SCRAM has occurred.

Proposed Answer: B

Explanation (Optional):

A. Incorrect - N2-OP-97, Sect H.1.0 is only intended for a single channel failure.

B. Correct – IAW the entry conditions for EOP-RPV reactor power is above 4% and a scram is required.

C. Incorrect – N2-SOP-97, RPS Failures would eventually be entered however for these conditions EOP-RPV must be entered and it directs the initiation of a manual scram.

D. Incorrect – although the ARP directs checking the relays the SDV level is verified to be above the scram setpoint of 46.5 inches and a scram is required.

Technical Reference(s): N2-EOP-RPV
N2-SOP-101C
N2-ARP-01
(Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #
Modified Bank # (Note changes or attach parent)
New X

Question History: Last NRC Exam:

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

10 CFR Part 55 Content: 55.41
55.43 5

Comments:
Revisions to the stem 6-22-09

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #		1
	Group #		1
	K/A #	295021 2.2.37	
	Importance Rating		4.6

Ability to determine operability and / or availability of safety related equipment. (Loss of Shutdown Cooling)

Proposed Question: SRO Question # 80

The plant is in Mode 5 with the following:

- RHS Loop A is operating in Shutdown Cooling (SDC).
- RHS Loop B is not available.
- Fuel Movements are in progress.
- A loss of Line 5 occurs.
- Division I EDG fails to start and cannot be started.
- Pool and cavity cooling was swapped from ADH to SFC one hour ago.

Which one of the following methods is required to restore core decay heat removal?

A. Enter N2-SOP-31, Loss of SDC, and re-start RHS Loop A in normal SDC lineup.

B. Place Alternate Shutdown Cooling in service per Attachment 1 of N2-SOP-31, Loss of SDC

C. Enter N2-SOP-11, Loss of SWP verify non essential loads are isolated and restore service water flow to the B RHS Loop Heat Exchanger.

D. Enter N2-SOP-31R, Refueling Operations Alternate Heat Removal, verify shut 2RHS*MOV40A(B) and start one Alternate Decay Heat Removal loop.

Proposed Answer: D

Explanation (Optional):

A. Incorrect - Entry is into SOP-31R and with loss of line 5, no power is available to the Div I SDC inboard containment isolation valve which causes a trip of SDC. With no power

to the valve the RHS pump cannot be restarted. SOP-31R closes MOV40A(B) which prevents using RHS

B. Incorrect – Entry is into SOP-31R, Attachment 1 of SOP-31 is for use cooling the reactor is not applicable when the cavity is flooded and the gates removed.

C. Incorrect – SW is from Div 2 which is still available.

D. Correct - ADH is available because fuel movement is in progress indicating the cavity is flooded with the gates removed

Technical Reference(s): N2-SOP-31R
N2-SOP-31 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #
Modified Bank # (Note changes or attach parent)
New X

Question History: Last NRC Exam:

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

10 CFR Part 55 Content: 55.41
55.43 5

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		1
Group #		1
K/A #	295038 2.4.8	
Importance Rating		4.5

Emergency Procedures / Plan: Knowledge of how abnormal operating procedures are used in conjunction with EOP's. (High Off-site Release Rate)

Proposed Question: SRO Question # 81

Following a fuel failure the crew entered the following procedures:

- N2-SOP-17, Fuel Failure or High Activity in Rx Coolant or Off-Gas.
- N2-SOP-09, Loss of Condenser Vacuum.
- N2-SOP-101C Reactor Scram

Following the scram the off-site release rate exceeds the E-Plan Alert level.

Which one of the following actions is required?

A. Enter N2-EOP-RPV, RPV Control and continue in all the SOPs as necessary.

B. Enter N2-EOP-RR, Radioactivity Release Control and continue in all the SOPs as necessary.

C. Enter N2-EOP-RPV, RPV Control and continue with N2-SOP-101C, exit N2-SOP-09 and N2-SOP-17.

D. Enter N2-EOP-RR, Radioactivity Release Control and continue with N2-SOP-101C, exit N2-SOP-09 and N2-SOP-17.

Proposed Answer: B

Explanation (Optional):

A. Incorrect – There are no entry conditions for N2-EOP-RPV, declaring an Alert based on a release is an entry condition for N2-EOP-RR.

B. Correct – Declaring an Alert based on a radioactive release is an entry condition for N2-EOP-RR. Actions prescribed in EOPs take precedence over actions required in other plant procedures; however the other SOP actions are still carried out provided they do not conflict with the EOP.

C. Incorrect - There are no entry conditions for N2-EOP-RPV, declaring an Alert based on a release is an entry condition for N2-EOP-RR. The other SOP actions are still carried out provided they do not conflict with the EOP.

D. Incorrect - The other SOP actions are still carried out provided they do not conflict with the EOP.

Technical Reference(s): pg 2-4 of EOP Bases (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41

55.43 5

Comments:

Minor revisions

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		1
Group #		1
K/A #	295001 2.2.40	
Importance Rating		4.7

Equipment Control: Ability to apply technical specifications for a system. (Partial or Complete Loss of Forced Core Flow Circulation)

Proposed Question: SRO Question # 82

The plant is operating in single loop recovering from a trip of Reactor Recirc Pump (RRP) "A". The following plant conditions exist:

- Steam Dome Pressure is 1000 psig
- Recirc Loop A Temperature is 495°F.
- Recirc Loop B Temperature is 539°F.
- Bottom Head Temperature is 485°F.
- Recirc Loop B Jet pump flow is 20 Mlbm/hr.

Which one of the following is correct regarding the Technical Specifications requirements for starting the idle Recirc pump?

A. RRP can be started; all starting limitations are currently met.

B. RRP cannot be started; operating loop flow limit is exceeded.

C. RRP cannot be started; reactor Coolant to idle loop delta T limit is exceeded.

D. RRP cannot be started, steam dome to bottom head drain delta T limit is exceeded.

Proposed Answer: A

Explanation (Optional):

A. Correct - Per Tech Spec SR 3.4.11.3 and 3.4.11.4 reactor coolant temperature in the recirculation loop to be started <u>and</u> RPV coolant temperature differential temperature must be < 50°F. In this case the Delta Temp is 25°F. The bottom head coolant temperature AND the Reactor Pressure Vessel (RPV) coolant temperature ΔT must be

≤ 145°F. In this case it's 980 psig = ~966 psia = ~541°F for a ΔT of 34°F. Operating loop flow rate must be less than or equal to 50% of rated jet pump loop flow (27.125 mlb/hr sum jet pump flow indicator on 2CEC*PNL602).

B. Incorrect – Operating loop flow is within the limit (Verify the operating loop jet pump flow is less than 27.125 mlb/hr).

C. Incorrect – The reactor Coolant to idle loop delta T limit is 50°F if the loop temperature is used for bulk coolant temp.

D. Incorrect – The ΔT is within 145°F.

Technical Reference(s): N2-OP-29 Precaution/Limitation 9.2
ITS SR 3.4.11.3 and 3.4.11.4 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: Tech Specs SR 3.4.11

Learning Objective: (As available)

Question Source: Bank #
Modified Bank # (Note changes or attach parent)
New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge
Comprehension or Analysis x

10 CFR Part 55 Content: 55.41
55.43 2

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		1
Group #		2
K/A #	295014 AA2.02	
Importance Rating		3.9

Ability to determine and/or interpret the following as they apply to INADVERTENT REACTIVITY ADDITION : Reactor period

Proposed Question: SRO Question # 83

The Reactor is shutdown with refueling in progress when the following events occur:

- No rod motion is currently being performed
- Annunciator 603209 SRM SHORT PERIOD alarms
- Annunciator 603443, CONTROL ROD DRIFT alarms
- No Radiation Monitors are in alarm

Which one of the following is required?

A. Enter N2-SOP-30, Control Rod Drive Failures, verify all control Rod Drive parameters normal.

B. Enter N2-SOP-39, Refuel Floor Events, direct an immediate evacuation of the Reactor Building.

C. Enter N2-SOP-30, Control Rod Drive Failures, determine if any changes in control rod position occurred.

D. Enter N2-SOP-39, Refuel Floor Events, direct the Refuel Floor to stop any activities and verify no changes in refuel floor radiation levels.

Proposed Answer: D

Explanation (Optional):

A. Incorrect – There is no entry condition for SOP-30, this procedure covers failures of the CRD hydraulic system.

B. Incorrect – There is no need or requirement to evacuate the refuel floor.

C. Incorrect - There is no entry condition for SOP-30, this procedure covers failures of the CRD hydraulic system.

D. Correct – A short period while refueling is in progress requires an entry into SOP-39. The procedure directs the operators to stop any activity that might have caused the indication of criticality.

Technical Reference(s): N2-ARP-01, 603209
N2-SOP-39 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #
Modified Bank # (Note changes or attach parent)
New X

Question History: Last NRC Exam:

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

10 CFR Part 55 Content: 55.41
55.43 5

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #		1
	Group #		2
	K/A #	295017 2.1.31	
	Importance Rating		4.3

Conduct of Operations: Ability to locate control room switches, controls, and indications, and to determine that they correctly reflect the desired plant lineup. (High Off-site Release Rate)

Proposed Question: SRO Question # 84

The following conditions exist:

- Suppression Chamber Pressure is 25 psig.
- Suppression Pool Level is 210 feet.
- It is necessary to VENT the Primary Containment.

Using a GTS train which one of the following lineups will provide the LOWEST radioactivity release rate?

A. Using N2-EOP-6, Att 21, Containment Venting, ensure:

CPS*SOV133/AOV109, SUPPR POOL N2 SUPPLY INBD OUTLET IV open
CPS*AOV111, SUPP CHAM PURGE OUTLET OUTBOARD ISOL VLV 2. open
GTS*SOV102, CONTMT DEPRESSURIZE TO SBGTS ISOL VLV open

B. Using N2-OP-61A, Section H.1. Initiation of Containment Venting, ensure:

CPS*SOV133/AOV109, SUPPR POOL N2 SUPPLY INBD OUTLET IV open
CPS*AOV111, SUPP CHAM PURGE OUTLET OUTBOARD ISOL VLV 2. open
GTS*SOV102, CONTMT DEPRESSURIZE TO SBGTS ISOL VLV open

C. Using N2-EOP-6, Att 21, Containment Venting, ensure:

IAS*SOV168, PRIMARY CNTMT OUTBD ISOL VLV TO DRYWELL, open
IAS*SOV180, PRIMARY CNTMT INBD ISOL VLV TO DRYWELL, open
GTS*SOV102, CONTMT DEPRESSURIZE TO SBGTS ISOL VLV, open
CPS*AOV108, DRYWELL PURGE OUTLET INBOARD ISOL VLV. open
CPS*AOV110, DRYWELL PURGE OUTLET OUTBOARD ISOL VLV, open

D. Using N2-OP-61A, Section H.1. Initiation of Containment Venting, ensure:

IAS*SOV168, PRIMARY CNTMT OUTBD ISOL VLV TO DRYWELL, open
IAS*SOV180, PRIMARY CNTMT INBD ISOL VLV TO DRYWELL, open
GTS*SOV102, CONTMT DEPRESSURIZE TO SBGTS ISOL VLV, open
CPS*AOV108, DRYWELL PURGE OUTLET INBOARD ISOL VLV. open
CPS*AOV110, DRYWELL PURGE OUTLET OUTBOARD ISOL VLV, open

Proposed Answer: A

Explanation (Optional):

A. Correct – EOP-6 provides the lineup for venting with a high drywell pressure present because it provides for bypassing the isolations necessary to open the valves. Venting the Suppression Chamber provides water scrubbing to produce the LOWEST radioactivity release rate.

B. Incorrect – OP-61A is not used with LOCA conditions.

C. Incorrect –This vent path is through the drywell so no scrubbing occurs.

D. Incorrect - OP-61A is not used with LOCA conditions and this vent path is through the drywell so no scrubbing occurs.

Technical Reference(s): N2-EOP-6, Att 21. (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #
Modified Bank # (Note changes or attach parent)
New X

Question History: Last NRC Exam:

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

10 CFR Part 55 Content: 55.41
55.43 5

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		1
Group #		2
K/A #	295015 AA2.02	
Importance Rating		4.2

Ability to determine and/or interpret the following as they apply to INCOMPLETE SCRAM : Control rod position

Proposed Question: SRO Question # 85

The plant was operating at full power when a spurious turbine trip and loss of RPIS occurred.

- RPV Level is 150 inches.
- The OATC reports IRMs are inserted and are reading 35 on range 3 and lowering.

Which of the following procedures is required to establish RPV water level control?

Enter ...

A. N2-SOP-101C, Reactor Scram

B. N2-EOP-RPV, RPV Control

C. N2-EOP-C5, Failure to Scram

D. N2-EOP-C4, RPV Flooding

Proposed Answer: C

Explanation (Optional):

A. Incorrect – Must enter C5

B. Incorrect - Must enter C5 N2-SOP-101C would be re-entered after the rods were inserted.

C. Correct Must enter C5 Although power is down, rod position in not known, conservatively C5 must be entered

D. Incorrect – Must enter C5 and exit RPV Control

Technical Reference(s): N2-EOP-RPV (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41

55.43 5

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		2
Group #		1
K/A #	215003 A2.01	
Importance Rating		3.2

Ability to (a) predict the impacts of the following on the INTERMEDIATE RANGE MONITOR (IRM) SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Power supply degraded

Proposed Question: SRO Question # 86

A reactor startup is in progress with Intermediate Range Monitor (IRM) Channel A INOPERABLE and BYPASSED, when the following occurs:

- A loss of power to IRM Channel D occurs.
- IRM Channels B, C, E, F, G, and H indicate 32/40 on Range 7.
- ALL Average Power Range Monitors (APRMs) are DOWNSCALE.

Which one of the following actions is to be directed?

A. PLACE IRM Channel D in a TRIPPED condition and continue the Reactor Startup.

B. SHUTDOWN per N2-OP-101C, Plant Shutdown; because REQUIRED Intermediate Range Monitors are INOPERABLE.

C. BYPASS IRM Channel D by placing the Reactor Mode Switch in RUN per N2-OP-101A, Plant Startup; and CONTINUE the Reactor Startup.

D. BYPASS IRM Channel D using the joystick per N2-OP-92, Neutron Monitoring; verify the rod block clears, and CONTINUE the Reactor Startup.

Proposed Answer: D

Explanation (Optional):

A. Incorrect - IRM is in a TRIPPED condition, needs to be BYPASSED to continue startup.

B. Incorrect – This would be true with < 3 IRMs per TRIP SYSTEM OPERABLE.

C. Incorrect - Reactor Power is too low to place the Reactor Mode Switch in RUN.

D. Correct - In MODE 2, there are 3 REQUIRED Channels per Trip System. With IRM A and D INOP, the LCO is satisfied. It is permitted to BYPASS IRM D, RESET the Half Scram and continue the startup.

Technical Reference(s): T.S. 3.3.1.1
N2-OP-92, Sect. H.2 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: T.S. 3.3.1.1

Learning Objective: (As available)

Question Source: Bank # SOP & EOP Bank # 117

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41

55.43 2, 5

Comments:
Revised question 6-22-09

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		2
Group #		1
K/A #	211000 A2.05	
Importance Rating		3.4

Ability to (a) predict the impacts of the following on the STANDBY LIQUID CONTROL SYSTEM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Loss of SBLC tank heaters

Proposed Question: SRO Question # 87

During operation at 100% power the following conditions exist:

- Liquid poison tank concentration 13.9%
- Liquid poison tank volume 4500 gallons
- 601711, SLCS TANK 1 TEMPERATURE HIGH/LOW, in alarm
- The local temperature indicator, 2SLS-TIC101, indicates 69°F
- Reactor building ambient temperature at SLS pumps, 70°F

Which one of the following actions is required based on these conditions?

A. Carry out the actions in N2-ARP-01, 601711, and restore SLC to operable in no later then 7 days.

B. Carry out the actions in N2-ARP-01, 601711, and restore one SLC system to operable in no later than 8 hours.

C. Enter N2-OP-36A, Standby Liquid Control, Section E.3, Inoperable Status to Standby Condition and restore SLC to operable in no later then 7 days.

D. Enter N2-OP-36A, Standby Liquid Control, Section E.3, Inoperable Status to Standby Condition and restore SLC to operable in no later than 8 hours.

Proposed Answer: B

Explanation (Optional):

A. Incorrect – Although Condition A is entered, the priority action is TS 3.1.7 Condition B (8

hours).

B. Correct - With the current temperature <70°F the SLC system is not within TS limit 3.1.7.2 and is inoperable. With the temperature below the limit, both SLC subsystems are inoperable; they both take suction from the same SLC storage tank. Enter both TS 3.1.7 Condition A and Condition B.

C. Incorrect – N2-OP-036A does not give any guidance on recovering the heater and although Condition A is entered, the priority action is TS 3.1.7 Condition B (8 hours).

D. Incorrect – N2-OP-036A does not give any guidance on recovering the heater

Technical Reference(s): N2-ARP-01, 601711
T.S. Sect. 3.1.7.2 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: T.S. Sect. 3.1.7

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41

55.43 2, 5

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		2
Group #		1
K/A #	400000 2.2.38	
Importance Rating	4.5	

Equipment Control: Knowledge of conditions and limitations in the facility license. (Component Cooling Water)

Proposed Question: SRO Question # 88

The service water supply header water temperature averaged for the past 24 hours is 81.5 degrees F as indicated by 2SWP*TT31A and B. A further check reveals that the associated computer point SWPTA01/02 is 83°F.

Which one of the following describes the required action?

A. Be in Mode 3 in 12 hours, and Mode 4 in 36 hours.

B. Verify at least five (5) Service Water Pumps in service.

C. Verify each Service Water supply header temperature is less than or equal 82 deg F every 2 hours.

D. Verify the service water supply header temperature is less than or equal to 82 degrees F averaged over the past 24 hours once per hour.

Proposed Answer: B

Explanation (Optional):

A. Incorrect - LCO action does not apply

B. Correct - Per OP-11 P&L 29.0 the maximum temperature reading for 2SWP*TT31A and B can have is 82.93 degrees F due to instrument inaccuracies that were not calculated into the technical specification analysis for the 82 Deg F limit. Per the Tech Spec Bases when the 24 hour average temperature for SWP discharge header temperature exceeds 82 deg F condition G of 3.7.1 states whenever SW temp is between 82°F and 84°F five SW Pumps must be in service. Furthermore maximum that the associated computer point SWPTA01/02 may not exceed 80.37°F

C. Incorrect – Temperature may exceed 82°F provided five pumps are in service.

D. Incorrect - Temperature may exceed 82°F provided five pumps are in service.

Technical Reference(s): N2- OP-11 P&L 29.0, pg 19
T.S. 3.7.1 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: T.S. 3.7.1

Learning Objective: (As available)

Question Source: Bank # Water Sys Bank ID: N2-276000-RBO14-Q02

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41

55.43 2, 5

Comments:
Changed response to be start a fifth pump.

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		2
Group #		1
K/A #	223002 2.4.6	
Importance Rating		4.7

Emergency Procedures / Plan: Knowledge of EOP mitigation strategies. (PCIS/Nuclear Steam Supply Shutoff)

Proposed Question: SRO Question # 89

Following a fuel failure at 100% power, the following plant conditions exist seven minutes after the reactor scram:

- MSIV's have been isolated.
- Turbine Building release rate is 1.97E-3 µCi/cc.
- The site has declared an Emergency Plan ALERT based on the stack release rate.
- Main Steam line radiation is 4.12E+3 mR/hr.

Which one of the following actions is required?

A. Exit N2-EOP-RPV and enter N2-EOP-RR, and perform a RPV blowdown per N2-EOP-C2.

B. Enter N2-EOP-MSL and defeat the OFG isolation and start the SJAE's discharging through Offgas.

C. Enter N2-EOP-MSL and N2-EOP-RR, verify Turbine Building Ventilation is in operation and discharging through the main stack.

D. Enter N2-EOP-MSL and re-open the MSIVs, re-establish Main Condenser Vacuum and commence a normal Cooldown per N2-OP-101C.

Proposed Answer: C

Explanation (Optional):

A. Incorrect – This would only be done if radiation levels where approaching General Emergency Levels.

B. Incorrect – This would not be done until main steam line radiation has exceeded the MSL rad limit which it is well below.

C. Correct – Main Steam Rad levels are above Hi Hi and release rates are above an Alert level which requires entry into N2-EOP-MSL (and N2-EOP-RR). For these conditions both procedures require Turbine Building HVAC in operation. Turbine Building HVAC exhaust radiation level above the values of the Turbine Building Release Rate (Figure 1) is indicative of leakage through the MSIVs and a fuel failure condition. The operator is directed to ensure the Turbine Building HVAC system is operating in the normal (unisolated) mode, in accordance with OP-55. Operating the Turbine Building HVAC system prevents an uncontrolled, unmonitored ground release by providing a monitored and elevated release via the main stack.

D. Incorrect – The MSIVs were isolated as required by N2-SOP-17, Fuel Failure or High Activity in Rx Coolant or Off-Gas. There is no direction to re-open the MSIVs.

Technical Reference(s): N2-EOP-MSL
N2-EOP-RR
N2-SOP-17 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: N2-EOP-MSI with Figures 1, 2, & 3

Learning Objective: (As available)

Question Source: Bank #
Modified Bank # (Note changes or attach parent)
New X

Question History: Last NRC Exam:

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

10 CFR Part 55 Content: 55.41
55.43 5

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		2
Group #		1
K/A #	215004 A2.03	
Importance Rating		3.3

Ability to (a) predict the impacts of the following on the SOURCE RANGE MONITOR (SRM) SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Stuck detector

Proposed Question: SRO Question # 90

The plant is in Mode 5 about to remove irradiated fuel from the core. The following conditions exist:

- SRM C is inoperable and bypassed.
- The next step requires movement of the fuel assembly at core location 24-25 to core SFP 2A37.

Before latching this step, the OATC notices SRM A detector is stuck and not fully inserted. SRM A reads 2.1 cps.

With these conditions which one of the following is required?

A. Stop all fuel movement to or from the core, NO fuel assembly movement is allowed in accordance with Technical specifications.

B. The Shift Manager and the Reactor Engineer must revise the Fuel Movement instructions to allow movement of fuel from other core quadrants.

C. Continue with the fuel move using N2-FHP-13.3, SRM D is in the quadrant from which the bundle will be removed and SRM A in the adjacent quadrant is considered operable.

D. Continue with the fuel move using N2-FHP-13.3, SRM A is in the quadrant from which the bundle will be removed and SRM D in the adjacent quadrant is considered operable.

Proposed Answer: A

Explanation (Optional):

A. Correct – Technical Specifications requires SRMs be operable using a performance check, N2-OSP-NMS-@002 requires SRMs be inserted and not bypassed. Additionally as referenced in T.S. and T.S. Bases for section 3.3.1.2.2 signal to noise ratio is assumed is assumed to be correct with the detectors inserted to their normal (fully inserted) position.

B. Incorrect – The fuel move may NOT be accomplished as written and not other fuel moves are permitted because both SRM A and C are inoperable and it is impossible to have an SRM in the quadrant were fuel is moved and an adjacent quadrant.

C. Incorrect - SRM D is in the quadrant form which the bundle will be removed. SRM A or C is adjacent to SRM D. SRM A and C are inoperable no movement is possible.

D. Incorrect - SRM D is in the quadrant form which the bundle will be removed. SRM A or C is adjacent to SRM D.

Technical Reference(s): T.S. 3.3.1.2.2
T.S. Bases, Sect. 3.3.1.2.5 and 3.3.1.2.6
N2-OSP-NMS-@002, Sect 4.2, pg 2
(Attach if not previously provided)

Proposed References to be provided to applicants during examination: T.S. 3.3.1.2 & Core Map showing SRMs

Learning Objective: (As available)

Question Source: Bank #
Modified Bank # (Note changes or attach parent)
New X

Question History: Last NRC Exam:

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

10 CFR Part 55 Content: 55.41
55.43 7, 2

Comments:

Revised which answer was correct revised the stem and added extra references for the correct answer. 6-22-09

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		2
Group #		2
K/A #	226001 A2.10	
Importance Rating		3.1

Ability to (a) predict the impacts of the following on the RHR/LPCI: CONTAINMENT SPRAY SYSTEM MODE; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Nuclear boiler instrument failures

Proposed Question: SRO Question # 91

A LOCA has occurred with the following conditions:

- Suppression Chamber pressure is 12.5 psig and rising
- The "A" loop of RHR is NOT available.
- The "B" loop RHR is being placed in Drywell spray mode
- RHS*MOV15B is Open
- RHS*MOV25B is stroking Open
- Before RHS*MOV25B is full open a failure of the Drywell pressure instrumentation clears the high drywell pressure signal.

Which one of the following describes (1) the Drywell Spray Valve (RHS*MOV25B) response AND (2) what actions are required to spray the Drywell?

A. (1) RHS*MOV25B closes.
(2) Close MOV25B and use N2-EOP-6, Att 5, RHS Service Water Cross-Tie to spray the Drywell.

B. (1) RHS*MOV25B closes.
(2) Bypass the Drywell pressure signal per N2-EOP-6, Att 22, Containment Sprays and verify open MOV25B.

C. (1) RHS*MOV25B stops at its current position.
(2) Close MOV25B and use N2-EOP-6, Att 5, RHS Service Water Cross-Tie to spray the Drywell.

D. (1) RHS*MOV25B stops at its current position.
(2) Bypass the Drywell pressure signal per N2-EOP-6, Att 22, Containment Sprays and verify open MOV25B.

Proposed Answer: D

Explanation (Optional):

A. Incorrect - Relay K60A(B) appears in both Drywell and Suppression Chamber spray valve circuits, per GE prints if high drywell pressure clears relay K60A will deenergize and the contacts in the open leg of the valve circuits open, stopping valve motion. With the A RHS loop not available obtaining SW will not be useful since MOV25B has failed.

B. Incorrect - Relay K60A(B) appears in both Drywell and Suppression Chamber spray valve circuits, per GE prints if high drywell pressure clears relay K60A will deenergize and the contacts in the open leg of the valve circuits open stopping valve motion.

C. Incorrect - With the A RHS loop not available obtaining SW will not be useful since MOV25B has failed.

D. Correct - Relay K60A(B) appears in both Drywell and Suppression Chamber spray valve circuits, per GE prints if high drywell pressure clears relay K60A will deenergize and the contacts in the open leg of the valve circuits open stopping valve motion. N2-EOP-6, directs bypassing the drywell pressure permissive if spraying is required Step 3.2.2.a, IF Drywell spray valve interlocks are not met, defeat the RHS*MOV15B/25B interlock by performing the following to bypass the high drywell pressure interlock for 2RHS*MOV15/25B

Technical Reference(s): N2-EOP-6, Att 22, Sect. 3.2.2, pg 326
Print ESK 6RHS13
GE 807E170TY series
(Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #
Modified Bank # (Note changes or attach parent)
New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

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

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		2
Group #		2
K/A #	216000 2.2.20	
Importance Rating		4.3

Emergency Procedures / Plan: Knowledge of operational implications of EOP warnings, cautions, and notes. (Nuclear Boiler Inst.)

Proposed Question: SRO Question # 92

The plant experienced a transient which resulted in the following conditions:

- Drywell Temperature 300°F
- Reactor Pressure 50 psig
- Control rods All fully inserted
- All Narrow Range Indicators read 185 inches and have been erratic for the last 30 minutes
- Shutdown range indicates 185 inches
- Upset range indicates 185 inches
- All other level indications have been judged to be unreliable

Based on the above plant parameters, (1) what is the correct level indication and (2) what procedural action is required?

A. (1) 185 inches as read on the upset range.
(2) Maintain RPV water level per EOP-RPV.

B. (1) 185 inches as read on the narrow range.
(2) Maintain RPV water level per EOP-RPV.

C. (1) RPV level must be considered unknown.
(2) Enter EOP-C4, RPV Flooding.

D. (1) RPV level must be considered unknown.
(2) Enter EOP-C2, RPV Blowdown and restore RPV water level per EOP-RPV.

Proposed Answer: C

Explanation (Optional):

A. Incorrect – With the temperature below 350°F and drywell conditions in the Bad Region of the RPV Saturation Curve a reading of 185 inches on the upset range is below the minimum useable level of 190 inches per Detail C.

B. Incorrect – An RPV water level instrument may not be used if there has been any indication of instrument leg flashing. That the narrow range has been erratic for the last 30 minutes is indication of flashing. Therefore even though the indicated level is above the minimum indicated level in Detail C. With drywell conditions in the Bad Region of the RPV Saturation Curve the narrow range cannot be used.

C. Correct - Reactor water level is unknown. The narrow range cannot be used since it has been erratic for the last 30 minutes. Shutdown and upset ranges cannot be used since they are below the minimum useable level per Detail C and Drywell temperature is above the saturations temperature for the reactor pressure.

D. Incorrect – When water level is unknown the RPV override statement in the EOP directs entering EOP-C4, RPV Flooding.

Technical Reference(s): N2-EOP-RPV, Note A and Step L-2 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: Note A of N2-EOP-RPV

Learning Objective: (As available)

Question Source: Bank # SOP-EOP Bank # 213

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41

55.43 5

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		2
Group #		2
K/A #	290001 A2.05	
Importance Rating		3.3

Ability to (a) predict the impacts of the following on the SECONDARY CONTAINMENT; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: High area temperature

Proposed Question: SRO Question # 93

The plant is at rated conditions when the following occurs:

- An unisolable RCIC steam leak in the Reactor Building has occurred.
- RPV pressure is 890 psig and lowering slowly.
- RPV water level is 160 inches (indicated) and steady.
- Reactor building RCIC pump room temperature (E31-N602A) reads 230˚F
- Reactor building radioactive pipe chase temperature (E31-N621A) reaches 213˚F

Which one of the following actions is required?

A. Enter N2-EOP-C2 RPV Blowdown and open the seven ADS valves to depressurize the RPV.

B. Return to N2-EOP-RPV RPV Control, anticipate RPV Blowdown, and depressurize the RPV using the main turbine bypass valves.

C. Alternately open SRVs as necessary to lower RPV pressure to 400 psig to lower RCIC steam discharge.

D. Open main turbine bypass valves as necessary to lower RPV pressure to 400 psig to lower RCIC steam discharge.

Proposed Answer: A

Explanation (Optional):

A. Correct - Answer choice 'D' is correct because EOP-SC states that with 2 or more areas

above the maximum safe operating value, RPV blowdown is required. Enter EOP-C2 and open 7 ADS valves

B. Incorrect – When both areas exceed 212˚F the option of "anticipating RPV blowdown is lost.

C. Incorrect – Blowdown is required.

D. Incorrect - Blowdown is required.

Technical Reference(s): N2-EOP-SC, Step SC-9
N2-EOP-6, Att 28 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: Tables from EOP-6, Att 28.

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41

55.43 5

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		3
Group #		1
K/A #	G1 2.1.14	
Importance Rating		3.1

Conduct of Operations: Knowledge of criteria or conditions that require plant-wide announcements, such as pump starts, reactor trips, mode changes, etc.

Proposed Question: SRO Question # 94

Which one of the following requires the SRO with the Control Room Command Function to make a plant announcement (i.e. may not be delegated) about the plant status / evolutions in progress?

A. Execution of N2-SOP-78, Control Room Evacuation.

B. Any event that requires NRC notification per CNG-NL-1-01-1004, Regulatory Reporting.

C. Declaration of an Alert per EPIP-EPP-18, Activation and Direction of the Emergency Plans.

D. Any Technical Specification required shutdown per CNG-OP-1.01-2001, Communications and Briefings.

Proposed Answer: A

Explanation (Optional):

A. Correct - N2-SOP-78, Control Room Evacuation directs the SRO with the Control Room command function to sound the station alarm and announce the Control Room abandonment.

B. Incorrect – This may be delegated (CNG-NL-1,01-1004).

C. Incorrect - This may be delegated and is normally performed by Communication Aids (EPIP-EPP-20).

D. Incorrect – The SRO would direct this announcement is made.

Technical Reference(s): N2-SOP-78 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41

55.43 5

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		3
Group #		2
K/A #	G2 2.2.21	
Importance Rating		4.1

Equipment Control: Knowledge of pre- and post-maintenance operability requirements.

Proposed Question: SRO Question # 95

Following maintenance on 2RHS*P1A the crew will perform N2-OSP-RHS-Q004, RHR System Loop A Pump and Valve Operability Test. Which one of the following does NOT constitute preconditioning in accordance with GAP-SAT-02, Pre/Post Maintenance Testing Requirements?

A. Manually stroking the valves to verify they are properly seated.

B. Starting and running RHS Pump 1A to bring it up to operating temperature.

C. Filling and venting the RHS system prior to starting RHS Pump 1A.

D. Adjusting the packing on RHS valves to insure no stem binding occurs.

Proposed Answer: C

Explanation (Optional):

A. Incorrect – Valves must not be manually exercised prior to testing.

B. Incorrect – The pump must not be started and run prior to testing.

C. Correct – Per Attachment 4 of GAP-SAT-02, Pre/Post Maintenance Testing Requirements, filling and venting a system provided the venting operation has proper controls does not constitute preconditioning. Proper controls are stipulated in the OSP by requiring the RHS system to be in standby prior to the test and standby as defined in the OP (OP-31) includes the system being filled and vented.

D. Incorrect – Adjusting packing before the test may affect valve timing.

Technical Reference(s): GAP-SAT-02, Att 4 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #

Modified Bank # (Note changes or attach parent)

New X

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge X

Comprehension or Analysis

10 CFR Part 55 Content: 55.41

55.43 2

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		3
Group #		3
K/A #	G3 2.3.11	
Importance Rating		4.3

Radiation Control: Ability to control radiation releases.

Proposed Question: SRO Question # 96

The plant is operating at 100% power when the following events occur:

- Annunciator 851515, CNST DEMIN SYSTEM EFFLUENT SMPL COND HI-HI, alarms
- Annunciator 851525, CNST DEMIN SYSTEM EFFLUENT SMPL COND HIGH, alarms
- Annunciator 851535, CNST DEMIN 1A THRU 1J EFFLUENT SMPL COND HIGH, alarms
- A sample of the Condemin Influent conductivity is 31.2 MICROMHOS/CM

Which one of the following actions is required?

A. Enter N2-SOP-10, "Main Condenser Tube Rupture or Condensate High Conductivity and Secure CWS Blowdown per N2-OP-10A, F.4.0 OR F.6.0.

B. Enter N2-SOP-10, "Main Condenser Tube Rupture or Condensate High Conductivity and scram the reactor per N2-SOP-101C and secure the CWS Pumps.

C. Enter N2-SOP-17, "Fuel Failure or High Activity in Reactor Coolant or Offgas and if any new MSL or offgas rad alarm occurs scram the reactor per N2-SOP-101C.

D. Enter N2-SOP-17, "Fuel Failure or High Activity in Reactor Coolant or Offgas and if any new MSL or offgas rad alarm occurs continue power reductions per N2-SOP-101D.

Proposed Answer: A

Explanation (Optional):

A. Correct – All four of the AOPs state if Condemin Influent conductivity is highly elevated, THEN enter N2-SOP-06 and perform Section 4.3, "Main Condenser Tube Rupture or Condensate High Conductivity". SOP-06, directs securing CWS Blowdown per N2-OP-

10A, F.4.0 OR F.6.0. to prevent discharging reactor water into the lake.

B. Incorrect – The reactor would be scrammed if the condenser shell was punctured such that flooding is a concern.

C. Incorrect – There is no entry condition for SOP-17 and although a power reduction may be applied to high condensate conductivity it is not directed by SOP-10.

D. Incorrect - There is no entry condition for SOP-17 and a scram is not required for these conditions.

Technical Reference(s): N2-ARP-01, for 851515, 851525, 851535
N2-SOP-10 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #
Modified Bank # (Note changes or attach parent)
New X

Question History: Last NRC Exam:

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

10 CFR Part 55 Content: 55.41
55.43 5

Comments:
From Goggle: The conductivity of the highly mineralized green waters of the Great Lakes is about 300 µS/cm, (I'm assuming that an inlet conductivity of 31.2 MICROMHOS/CM is sufficient to qualify as a highly elevated conductivity, if not we can raise it to make it something the operators will more than consider highly elevated.

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		3
Group #		4
K/A #	G4 2.4.4	
Importance Rating		4.7

Emergency Procedures / Plan: Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.

Proposed Question: SRO Question # 97

The plant is operating at 90% power, when power begins to lower slowly. Investigation indicates that Recirc Flow Control Valve 2RCS*HYV17A position has drifted from 50% open to 45% open. Which one of the following describes the action required as a direct result of this change in valve position?

A. Enter N2-SOP-08, Unplanned Power Change and insert the first four CRAM Rods as delineated in the CRC Book.

B. Enter N2-SOP-29, Sudden Reduction in Core Flow and lower reactor power to approximately 85% per N2-OP-101D.

C. Enter N2-SOP-08, Unplanned Power Change and depress the "Hydraulic Pressure Unit Shutdown" pushbutton at 2CEC*PNL602.

D. Enter N2-SOP-29, Sudden Reduction in Core Flow and verify the "B" operating loop jet pump flow is less than 56.9 Mlb/hr on B22-R611B.

Proposed Answer: C

Explanation (Optional):

A. Incorrect – There is no direction in this procedure to insert the first four cram rods. This direction is in SOP-29.

B. Incorrect – SOP-29 is not entered for this condition, if it was entered there is no direction to lower power to 85%. That direction is in SOP08.

C. Correct - This is the required immediate action as a direct result of the change in valve position, as directed by the flowchart for N2-SOP-08

D. Incorrect - SOP-29 is not entered for this condition, if it was entered there is no direction to monitor flow in the unaffected loop, this direction is for the trip of a Recirc pump.

Technical Reference(s): N2-SOP-08
N2-SOP-29 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # SOP & EOP Bank # 15

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41

55.43 5

Comments:
Modified question to meet SRO criteria.

Undervessel, Refuel Floor, and other personnel involved in the evolution.
Communications with the Control Room are not required for this evolution.

Technical Reference(s): N2-FHP-003, Sect. 4.1.1.a. pg 5
N2-FHP-011 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank #
Modified Bank # (Note changes or attach parent)
New X

Question History: Last NRC Exam:

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

10 CFR Part 55 Content: 55.41
55.43 6, 7

Comments:

Facility: Nine Mile Point 2

Vendor: GE

Exam Date: August 2009

Exam Type: S

Examination Outline Cross-reference:

Level	RO	SRO
Tier #		3
Group #		2
K/A #	G2 2.2.39	
Importance Rating		4.5

Equipment Control: Knowledge of less than one hour technical specification action statements for systems.

Proposed Question: SRO Question # 100

The plant is operating at 100% power. A Pressure Regulator malfunction results in reactor pressure slowly rising from 1020 psig to 1041 psig.

To comply with Technical Specifications which one of the following is (1) the maximum reactor pressure permitted AND (2) what is the maximum time permitted above this pressure?

A. (1) 1024 psig
(2) 15 minutes.

B. (1) 1024 psig
(2) 1 hour.

C. (1) 1034 psig
(2) 15 minutes.

D. (1) 1034 psig
(2) 1 hour.

Proposed Answer: C

Explanation (Optional):

A. Incorrect - per T.S. 3.4.12, Steam dome pressure must be <1035 psig, if not lower it below 1035 within 15 minutes.

B. Incorrect - per T.S. 3.4.12, Steam dome pressure must be <1035 psig, if not lower it below 1035 within 15 minutes.

C. Correct – Per T.S. 3.4.12, Steam dome pressure must be <1035 psig, if not lower it below 1035 within 15 minutes.

D. Incorrect - per T.S. 3.4.12, Steam dome pressure must be <1035 psig, if not lower it below 1035 within 15 minutes.

Technical Reference(s): T.S. 3.4.12 (Attach if not previously provided)

Proposed References to be provided to applicants during examination: None

Learning Objective: (As available)

Question Source: Bank # X

Modified Bank # (Note changes or attach parent)

New

Question History: Last NRC Exam:

Question Cognitive Level: Memory or Fundamental Knowledge

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41

55.43 2

Comments: