1. 001 A3.04 001/BANK/BYRON 2001/HIGHER//RO/WOLF CREEK/10/2007/NO

Initial conditions:

- 80% Reactor power and ramping UP at 1/2% per minute using load set.
- Tave and Tref are matched.
- Rod Control is in AUTOMATIC.

Current conditions:

- Control Bank D Rod D-12 is stuck at 170 steps.
- All Other Control Bank D Rods are indicating 216 Steps.

With NO Operator action taken, which ONE (1) of the following describes the DEMAND for rod motion, and the trend in Delta I for the channel NEAREST the control rod problem?

	ROD MOTION	DELTA I TREND
A.	Outward	Less Negative
B.✓	Outward	More Negative
C.	Inward	Less Negative
D.	Inward	More Negative

B is correct. With a dropped/slipped control rod during a power escalation, rate of change of turbine load vs. reactor power will turn towards the negative, requiring outward demand. (Turbine load rate of change would remain constant while reactor power will drop or slow rate of increase) Also, Tave will lower because of the dropped/slipped rod. Rod slip/drop will cause flux to shift toward the bottom detector in a power range NI, making AFD go more negative.

A is incorrect because AFD will become more negative. To make positive, rod would have to be withdrawn or boration would be performed.

C is incorrect because rod motion would be outward, and AFD would be more negative.

D is incorrect because rod motion would be outward.

Ability to monitor automatic operation of the CRDS, including: Radial imbalance

Question Number: 29

Tier 2 Group 2

Importance Rating: 3.5

Technical Reference: Rod Control LP SYS 1300100, OFN SF-011

Proposed references to be provided to applicants during examination: NONE

Learning Objective: 1300100 R7

10 CFR Part 55 Content: 41.7

Comments:

WTSI Bank 41860

Source:	BANK	Source If Bank:	BYRON 2001
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

2. 001 G2.1.7 001/BANK/WTSI/HIGHER//RO/WOLF CREEK/10/2007/NO

The crew is currently performing GEN 00-004, Power Operation. The reactor is at ~75% power with rods in AUTOMATIC when the following indications are observed:

- Tref stable at 579°F.
- Tavg 582°F and slowly rising.
- Pressurizer level 52% and slowly rising.
- Pressurizer spray valves are throttled open.
- Reactor Power at approximately 75% and slowly rising.
- Rods stepping OUT slowly.

Which ONE of the following describes the event in progress and the FIRST action that must be performed?

A. Turbine Impulse channel failure; Stabilize turbine load to maintain reactor power.

B. Turbine Impulse channel failure; Place the rod control mode selector to MANUAL and match Tavg with Tref.

C. Uncontrolled Continuous Rod Withdrawal; Trip the reactor and enter E-0, Reactor Trip or Safety Injection.

D.✔ Uncontrolled Continuous Rod Withdrawal; Place the rod control mode selector switch to MANUAL and verify that rod motion stops.

First action is to place rods in Manual if they are stepping in AUTO. Indications of a impulse channel failure would be Tref increasing..
A is incorrect failure and incorrect action. Plausible since an impulse channel failure could cause rods to withdraw.
B is the incorrect failure. If the impulse channel failed, Tref would be higher, or the rods would be stepping in. Plausible if the applicant confuses symptoms.
C is the correct accident, however, the action stated is the RNO if rods do not cease moving once they have been placed in manual.
D. is correct for the stated situation.

Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.

Question Number: 57

Tier 1 Group 2

Importance Rating: 3.7

Technical Reference: OFN SF-011

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SYS 1301501 R13

10 CFR Part 55 Content: 43.2, 41.5

Comments:

WTSI generic. Used on Sequoyah (similar item, not exact)

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

3. 002 A4.08 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following describes the use of the Critical Safety Function Status Trees on the Safety Parameter Display System?

A. Must be manually evaluated for each procedure transition using EMG F-0

B.✔ Can be automatically monitored by NPIS; the number in the title block on the main menu indicates the correct CSFT severity color.

C. Must be updated manually by the operator in the CSFT application program.

D. Can ONLY be automatically monitored by NPIS after determination of agreement with EMG F-0.

B B or D is the correct answer

A incorrect but plausible because CSFSTs are manully evaluated; but not required to be

C is incorrect. Credible because CSFSTs may be updated manually, but there is no requirement to perform this and the operating crew would not us ethe CSF program, they would use NPIS

D is incorrect. Credible because it is similar to option A, in that this function is performed, but not required

Ability to manually operate and/or monitor in the control room: Safety parameter display systems

Question Number: 30

Tier 2 Group 2

Importance Rating: 3.4

Technical Reference: NPIS CSF Trees

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SYS 1408301 R4

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

4. 003 G2.1.27 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

The crew is performing an RCS cooldown in accordance with GEN 00-005, Minimum Load To Hot Standby. The plant is currently in Mode 3.

Which ONE (1) of the following represents the minimum number of reactor coolant pumps that must be running and the function provided by the reactor coolant pumps?

A.✓ Two reactor coolant pumps must be running to transport heat from the fuel assemblies to the steam generators.

B. All four reactor coolant pumps must be running to transport heat from the fuel assemblies to the steam generators.

C. All four reactor coolant pumps must be running to maintain system pressure to minimize boiling in the core.

D. Two reactor coolant pumps must be running to maintain system pressure to minimize boiling in the core.

A is correct.
B incorrect but plausible because Mode 1 requires 4 RCPs
C is incorrect but plausible because DNBR is a concern for RCP operation
D is incorrect but plausible because of same reason as C and because number of RCPs is correct

Conduct of Operations: Knowledge of system purpose and or function.

Question Number: 2

Tier 2 Group 1

Importance Rating: 2.8

Technical Reference: TS 3.4.5 and basis, GEN-002, LO1732103

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R5

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

5. 003 K2.01 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A plant startup is in progress.
- Power is 10%.
- The turbine and generator are being prepared for synchronization to the grid.

Which ONE (1) of the following describes the current power alignment for the RCPs?

A.✓ Startup Transformer supplying Bus PA01, which supplies RCPs A and B.

B. Startup Transformer supplying Bus PA01, which supplies RCPs A and C.

C. Unit Auxiliary Transformer fed from switchyard supplying Bus PA01, which supplies RCPs A and B.

D. Unit Auxiliary Transformer fed from switchyard supplying Bus PA01, which supplies RCPs A and C.

A is correct. Startup transformer supplies bus PA01/PA02 prior to synch
B is incorrect but plausible because of the correct supply to PA01. RCP C is supplied by PA02
C and D are incorrect because the UAT would not be backfed if the generator was being prepared for synchronization. Disconnects would have to be made for backfeed to be available to supply RCPs if work was performed on the Startup transformer

Knowledge of bus power supplies to the following: RCPS

Question Number: 1

Tier 2 Group 1

Importance Rating: 3.1

Technical Reference: SY 1300300, SYS AC-120

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R2

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

6. 004 K4.16 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following describes the power supplies to Charging Line Containment Isolation Valves BG HV-8106 and BG HV-8105?

A. NG01 and NG02

B. NG02 and NG04

C.✓ NG01 and NG04

D. NG02 and NG03

C is correct. NG01 supplies red train valve, NG04 supplies yellow train valve. This is a lower cognitive memory level item.
Distractors are incorrect but plausible because the power supplies all have the same designators. If an applicant does not know the supply, they will not be able to eliminate options based upon knowledge of general electrical scheme.
Knowledge of bus power supplies to the following: MOVs

Question Number: 3

Tier 2 Group 1

Importance Rating: 2.7

Technical Reference: CVCS SY 1300400, SYS NG-331, SYS NG-332

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R3

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

7. 004 K4.16 002/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following describes the temperature setpoint that will cause Letdown Temperature Control Valve BG TCV-129 to divert, and the reason for the diversion?

A. 120 degrees F; damage to ion exchanger resin

B.✓ 137 degrees F; damage to ion exchanger resin

C. 120 degrees F; reactivity effect due to decrease in boron solubility

D. 137 degrees F; reactivity effect due to decrease in boron solubility

B is correct.
A is plausible because the reason is correct, and 120 degrees is the maximum temperature at which the Letdown Heat Exchanger outlet is normally maintained
C is plausible because 120 degrees is the maximum temperature at which the Letdown Heat Exchanger outlet is normally maintained
D is plausible because reactivity effects are a real concern for demineralizer operation, and boron solubility is affected by temperature. However, the reason for diversion on high temperature is to prevent demineralizer damage. Low temperature would cause a small positive reactivity anomaly. High temperature would add negative reactivity

Knowledge of CVCS design feature(s) and/or interlock(s) which provide for the following: Temperature at which the temperature control valve automatically diverts flow from the demineralizer to the VCT; reason for this diversion

Question Number: 4

Tier 2 Group 1

Importance Rating: 2.6

Technical Reference: ALR-00-0039A, CVCS LP, SYS 1300400

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R21

10 CFR Part 55 Content: 41.7

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

8. 005 K6.03 002/MODIFIED/WTSI/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is in Mode 4.
- RHR Train "A" is in service.
- RHR Heat Exchanger Bypass Valve EJ FCV-618 is set to maintain 3400 GPM.
- RHR Heat Exchanger outlet valve EJ HCV-606 demand position set at 30%.
- The Instrument Air supply line to RHR Heat Exchanger Bypass Valve EJ FCV-618 becomes severed and is completely detached.
- No other air operated valves are impacted by the failure.

Which ONE (1) of the following describes the RHR system parameter changes from the initial steady state conditions?

	RHR HX Outlet Temp.	Total RHR flow
A.	Higher	Remains constant
B.	Higher	Lower
C.✓	Lower	Lower
D.	Lower	Remains constant

C: Correct. Total RHR flow is controlled by FCV-618, RHR HX Bypass, so it will lower. FCV-618 fails closed, so there is less bypass flow mixing with more HX flow, resulting in a lower temperature on the HX outlet.

B: Incorrect. Total RHR flow is controlled by FCV-618 and would lower, forcing more water through the RHR HX for cooling.

A: Incorrect. FCV 618 failing closed will result in full cooling through the RHR HX and the HX outlet temperature will lower along with the total RHR flow lowering. Plausible because the applicant may confuse valves for total flow versus HX flow

D: Incorrect. Temperature effect is correct and plausible because the applicant may confuse valves for total flow versus HX flow

Knowledge of the effect of a loss or malfunction on the following will have on the RHRS: RHR heat exchanger.

Question Number: 5

Tier 2 Group 1

Importance Rating: 2.5

Technical Reference: SY 1300500, OFN KA-019
Proposed references to be provided to applicants during examination: None
Learning Objective: R5

10 CFR Part 55 Content: 41.5/7

Source:	MODIFIED	Source If Bank:	WTSI
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

9. 006 K6.02 004/MODIFIED//LOWER//RO/WOLF CREEK/10/2007/NO

Chemistry sample has determined the following:

- "A" SI Accumulator boron concentration is 2466 ppm.
- "B" SI Accumulator boron concentration is 2292 ppm.
- "C" SI Accumulator boron concentration is 2477 ppm.
- "D" SI Accumulator boron concentration is 2493 ppm.
- RWST boron concentration is 2408 ppm.

Which ONE (1) of the following describes the technical specification operability of ECCS?

A. All ECCS LCOs are satisfied

B.✓ LCO entry is required for “B” SI Accumulator

C. LCO entry is required for “D” SI Accumulator

D. LCO entry is required for the RWST

B is correct because boron concentration is low
A is incorrect because at least 1 component is inoperable
C is incorrect because although D SI accumulator is high in boron, it is within spec
D is incorrect because RWST is within spec although low

Knowledge of the effect of a loss or malfunction on the following will have on the ECCS: Core flood tanks (accumulators)

Question Number: 6

Tier 2 Group 1

Importance Rating: 3.4

Technical Reference: TS 3.5.1, 3.5.4

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 130600 R13

10 CFR Part 55 Content: 43.2, 41.10

Comments:

Mod from WTSI OPM 006 A2.10

Source:	MODIFIED	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

10. 007 A3.01 003/BANK/WTSI/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A plant heatup is in progress with the RCS at 366°F/1900 psig.
- Due to an equipment failure, a PZR PORV failed OPEN.
- The PRT Rupture Disc ruptured at an indicated pressure of 90 psig.
- The associated PORV Block Valve has been CLOSED.
- AFTER CLOSING the PORV Block Valve the PZR is saturated at 1600 psig.
- Containment pressure is 20 psig.

What will the PORV Tailpipe Temperature indicate if the Block Valve is leaking by the seat?

A. 163 degrees F

B. 330 degrees F

C. 607 degrees F

D✓ 258 degrees F

A. Incorrect. Saturation temperature for 5.3 psia, credible with a math error
B. Incorrect. Saturation temperature for 105 psia (Pressure at which rupture disc blew)
C. Incorrect. Saturation temperature for PZR pressure
D. Correct. Saturation temperature for 35 psia, .

Ability to monitor automatic operation of the PRTS, including: Components which discharge to the PRT

Question Number: 7

Tier 2 Group 1

Importance Rating: 2.7

Technical Reference: Steam Tables, ALR-035C, 35D, SY 1231121

Proposed references to be provided to applicants during examination: Steam Tables

Learning Objective: R21

10 CFR Part 55 Content: 41.7/41.14

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

11. 008 A3.03 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following describes NORMAL CCW flow conditions at 100% power for the train supplying the Service Loop?

A. CCW flow to RCS $1X10^6$ lbm/hr; RCP Thermal Barrier Total Return Flow 80,000 lbm/hr

B. CCW flow to RCS $1X10^6$ lbm/hr; RCP Thermal Barrier Total Return Flow 120,000 lbm/hr

C✓ CCW flow to RCS $1.5X10^6$ lbm/hr; RCP Thermal Barrier Total Return Flow 80,000 lbm/hr

D. CCW flow to RCS $1.5X10^6$ lbm/hr;RCP Thermal Barrier Total Return Flow 120,000 lbm/hr

C is correct.
A and B are incorrect because they do not meet the minimum total flow setpoint established in ALR 00-074A
D is incorrect because it is too high for the minimum thermal barrier flow setpoint established in ALR 00-074C

Ability to monitor automatic operation of the CCWS, including: All flow rate indications and the ability to evaluate the performance of this closed-cycle cooling system.

Question Number: 8

Tier 2 Group 1

Importance Rating: 3.0

Technical Reference: ALR 74A, C

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY1400800 R4

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

12. 008 K1.05 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following describes the Normal and Emergency sources of makeup water to the CCW System?

	Normal	Emergency
A.	Demineralized Water	ESW directly to CCW Surge Tank
B.	Reactor Makeup Water	ESW directly to CCW pump suctions
C.✓	Demineralized Water	ESW directly to CCW pump suctions
D.	Reactor Makeup Water	ESW directly to CCW Surge Tank

C is correct.
A is incorrect because ESW is connected via hard pipe to CCW pump suction headers
B is incorrect because RMW does not supply makeup to CCW. Plausible because it is the other source of demineralized water for primary systems
D is incorrect because ESW is supplied directly to the CCW suction header via series MOVs, and RMW does not supply normal makeup

Knowledge of the physical connections and/or cause-effect relationships between the CCWS and the following systems: Sources of makeup water.

Question Number: 9

Tier 2 Group 1

Importance Rating: 3.0

Technical Reference: SY 1400800, ALR 00-051D

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R9

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

13. 009 EK2.03 001/BANK/WTSI/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A reactor trip has occurred.
- Safety Injection is actuated.
- All equipment is operating as designed.
- All actions required in EMG E-0, Reactor Trip or Safety Injection, have been taken.
- RCS pressure is 1350 psig and stable.
- SG pressures are 1050 psig and stable.

Which ONE (1) of the following describes the plant condition upon transition from E-0?

A. RCPs are running. SGs are required for RCS heat removal.

B. RCPs are running. SGs are NOT required for RCS heat removal.

C.✔ RCPs are NOT running. SGs are required for RCS heat removal.

D. RCPs are NOT running. SGs are NOT required for RCS heat removal.

C is correct. RCPs will be tripped below 1400 psig if SI pumps are running.
A is incorrect because E-0 foldout requires tripping at 1400 psig.
B is incorrect because RCS pressure is higher than SG pressure, meaning SGs still act as a heat sink. E-0 will require maintaining AFW and SG pressure for maintenance of Tave
D is incorrect because SGs are required for heat removal. Plausible because the applicant may assume that ECCS is providing RCS heat removal during the LOCA

Knowledge of the interrelations between the small break LOCA and the following: S/Gs

Question Number: 39

Tier 1 Group 1

Importance Rating: 3.0

Technical Reference: EMG E-0 foldout page

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732313 R6

10 CFR Part 55 Content: 41.10

Comments:

Bank 57162 from VCS 2007 Audit; was modified from 46216 Seabrook 2003 NRC

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

14. 010 K5.01 002/BANK/WBN/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The unit is in Mode 5.
- A bubble is being drawn in the pressurizer.
- Letdown Pressure Control Valve BG PCV-131 is set in AUTO at 100 psig.
- Current PZR temperature is 302 degrees F
- PZR temperature is rising at 1.2 degrees F per minute.

Assuming the current trends continue, which ONE (1) of the following describes the approximate time before a bubble is formed, and the indication that a bubble has been formed?

A. 30 minutes; large increase in pressurizer pressure for a given change in temperature

B.✓ 30 minutes; letdown flow greater than charging flow with stable or slightly increasing pressure.

C. 20 minutes; large increase in pressurizer pressure for a given change in temperature

D. 20 minutes; letdown flow greater than charging flow with stable or slightly increasing pressure.

B is correct.
A is plausible because time is correct, but saturation for 100 psig is 338 degrees F. Indication of large pressure increase is for solid plant, no bubble
C and D are incorrect because the time is too short, but credible because the applicant may make a mistake using PSIG instead of PSIA while using steam tables, and choose an incorrect response

Knowledge of the operational implications of the following concepts as the apply to the PZR PCS: Determination of condition of fluid in PZR, using steam tables

Question Number: 10

Tier 2 Group 1

Importance Rating: 3.5

Technical Reference: Steam Tables, LO 1732102, GEN 00-002

Proposed references to be provided to applicants during examination: Steam Tables

Learning Objective: R5

10 CFR Part 55 Content: 41.10

Comments:

From our bank, not NRC exam

Source:	BANK	Source If Bank:	WBN
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

15. 011 EA2.14 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The crew has performed EMG E-0, Reactor Trip or Safety Injection.
- All equipment is running as designed.
- Upon transition to EMG E-1, Loss of Reactor or Secondary Coolant, the following conditions exist:
    - RCS temperature 210 degrees F
    - RCS pressure 50 psig.
    - RCS Integrity CSF Status Tree is RED.
    - Containment CSF Status Tree is RED.

Which ONE (1) of the following describes the NEXT action required upon exit from E-0?

A. Stabilize RCS temperature and pressure in accordance with EMG FR-P1, Response to Imminent Pressurized Thermal Shock Conditions.

B.✓ Verify that a large break LOCA is in progress in accordance with EMG FR-P1, Response to Imminent Pressurized Thermal Shock Conditions, then exit EMG FR-P1.

C. Verify Containment Isolation Phase A and B in accordance with EMG FR-Z1, Response to High Containment Pressure.

D. Verify the operation of all available Containment Spray Pumps in accordance with EMG FR-Z1, Response to High Containment Pressure, then exit EMG FR-Z1.

B is correct. Action for PTS if LBLOCA is to verify RHR and return to procedure and step in effect
A is incorrect because these actions will not be performed for LBLOCA, as PTS is not a concern
C and D are incorrect because FR-P1 takes precedence over FR-Z1, although the actions in both options are correct for the procedure identified

Ability to determine or interpret the following as they apply to a Large Break LOCA: Actions to be taken if limits for PTS are violated

Question Number: 40

Tier 1 Group 1

Importance Rating: 3.6

Technical Reference: EMG F-0, EMG FR-P1, EMG FR-Z1

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO1732349 R2

10 CFR Part 55 Content: 41.10

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

16. 012 A2.04 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is operating at 100% power
- All equipment is operating in normal lineups.

Current conditions:

- A loss of DC Bus NK01 occurs.

Which ONE (1) describes the impact on the Reactor Protection System and the action required?

A. Reactor Trip due to loss of power to RTB "A" shunt trip coil;

Perform actions of EMG E-0, Reactor Trip or Safety Injection. OFN NK-020, Loss of 125 Volt Vital DC Bus NK01, NK02, NK03, NK04, may ONLY be performed upon exit from the EMG network.

B. Reactor Trip on low SG level;

Perform actions of EMG E-0, Reactor Trip or Safety Injection. OFN NK-020, Loss of 125 Volt Vital DC Bus NK01, NK02, NK03, NK04, may ONLY be performed upon exit from the EMG network.

C. Reactor Trip due to loss of power to RTB "A" shunt trip coil;

Perform actions of OFN NK-020 in parallel with EMG E-0, Reactor Trip or Safety Injection.

D✓ Reactor Trip on low SG level;

Perform actions of OFN NK-020 in parallel with EMG E-0, Reactor Trip or Safety Injection.

D is correct because MFIVs fail closed on loss of DC control power to either train. When the unit is at 100% power when this occurs, the SGs will shrink below 25%, causing a trip
A & C are incorrect because UV coils deenergize to cause a trip, but credible due to similarity in actions with the correct choice and other incorrect option
B actions are incorrect but choice is credible due to cause of trip being correct.

Ability to (a) predict the impacts of the following malfunctions or operations on the RPS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Erratic power supply operation

Question Number: 11

Tier 2 Group 1

Importance Rating: 3.1

Technical Reference: OFN NK-020, EMG E-0, LO 1732430

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R3

10 CFR Part 55 Content: 41.7

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

17. 013 K2.01 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following describes the effect of a loss of 125 VDC Bus NK01 on the operation of the Train A ESFAS Cabinet?

A. Loss of 48 VDC input to the ESFAS logic relays AND ESFAS actuation slave relays, resulting in loss of all automatic load sequencing capability from the ESFAS cabinet.

B. Loss of 48 VDC input to the ESFAS logic relays only. The sequencer will automatically start loads but not in the proper sequence.

C. Loss of 48 VDC input to the ESFAS actuation slave relays only. The sequencer will automatically start loads but not in the proper sequence.

D.✓ Power is maintained to ESFAS logic relays and ESFAS actuation slave relays. Loss of all automatic load sequencing capability from the ESFAS cabinet.

D is correct.
A, B, and C are incorrect because 48 VDC has redundant inputs from AC and DC power supplies. Therefore, these functions will continue to be available with 1 power supply. They are credible because if the power was lost, the effect would be accurate for each distractor.

Knowledge of bus power supplies to the following: ESFAS/safeguards equipment control

Question Number: 12

Tier 2 Group 1

Importance Rating: 3.6

Technical Reference: SY 1301301, LO 1732430, OFN NK-020

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1301301 R5

10 CFR Part 55 Content: 41.7

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

18. 013 K5.01 002/BANK/WTSI/LOWER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following correctly describes the MINIMUM required logic for AUTOMATIC actuation of the Auxiliary Feedwater Actuation System (AFAS) on low SG level?

A. 1 of 2 channels.

B. 2 of 2 channels.

C.✓ 2 of 4 channels.

D. 3 of 4 channels

C is correct. Need 2 of 4 channels of AFAS per SG.
A and B are incorrect because there are 4 channels, but the applicant can get confused and consider 2 channels for each train.
D is incorrect because only 2 channels required, not 3.

Knowledge of the operational implications of the following concepts as they apply to the ESFAS: Definitions of safety train and ESF channel

Question Number: 13

Tier 2 Group 1

Importance Rating: 2.8

Technical Reference: SY 1301301, SY 1406100

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1301301 R3

10 CFR Part 55 Content: 41.5

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

19. 015 AK1.05 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A plant startup is in progress.
- Reactor power is 25%.
- "B" RCP trips due to shaft shear.

Which ONE (1) of the following describes the effect on the unit and "B" loop Tave and flow?

A. Reactor automatically trips; Loop "B" Tave lowers and flow reverses.

B. Reactor automatically trips; Loop "B" Tave rises and flow lowers.

C.✓ Reactor remains at power; Loop "B" Tave lowers and flow reverses.

D. Reactor remains at power; Loop "B" Tave rises and flow lowers.

C is correct. Tave in the loop with the tripped pump will drop due to no heat input, and reverse flow causing the loop to go to Tcold. In this case, a reactor trip does not occur, because power is above P-10, although less than P-8
A and B are incorrect because power is below P-8. If power was > P-8, A would be correct.
D is incorrect because Tave lowers. Credible because Tave would rise if natural circulation was setting up on loss of all RCPs

Knowledge of the operational implications of the following concepts as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow): Effects of unbalanced RCS flow on in-core average temperature, core imbalance, and quadrant power tilt

Question Number: 41

Tier 1 Group 1

Importance Rating: 2.7

Technical Reference: SY 1300300

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1300300 R8

10 CFR Part 55 Content: 41.7

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

20. 015 K6.02 002/BANK/VCS/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant was initially at 95% power.
- The reactor has tripped.
- Compensating voltage on N-35, Intermediate Range NI, is set too HIGH.

Which ONE (1) of the following describes the response of Intermediate Range N-35 to the improperly set compensating voltage?

A. Indicates LOW; causing P-6 to reinstate the Source Range HI FLUX TRIP prematurely.

B. Indicates HIGH; preventing P-6 from automatically reinstating the Source Range HI FLUX TRIP.

C. Indicates HIGH; the Source Range HI FLUX TRIP will be reinstated by P-6 from the other IR channel (N-36).

D✓ Indicates LOW; the Source Range HI FLUX TRIP will be reinstated when P-6 is satisfied by the other IR channel (N-36).

D is correct. An overcompensated channel means that compensating voltage is too high for the channel, cancelling out part of the actual signal, resulting in a lower indication. The P-6 permissive is satisfied when 2 out of 2 IR channels is below the setpoint. If one channel indicates low, it will satisfy it's own P-6 criteria. Therefore, if the logic was 1 of 2, A would be correct. If the logic was 1 out of 2 and the IR indicated high (undercompensated) then C would be correct. B would be correct if the channel was undercompensated with the actual logic

Knowledge of the effect of a loss or malfunction on the following will have on the NIS: Discriminator/compensation circuits

Question Number: 31

Tier 2 Group 2

Importance Rating: 2.6

Technical Reference: OFN SB-008 BD, LO 1732418

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R4

10 CFR Part 55 Content: 41.7

Comments:

Source:	BANK	Source If Bank:	VCS
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

21. 017 K3.01 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is at 100% power.
- Loop "B" Wide Range Tcold instrument fails off-scale high.

Which ONE (1) of the following describes the effect, if any, on the RCS Subcooling Margin Monitor?

A. No change in indicated subcooling because the instrument selected for subcooling is the average core exit thermocouple.

B. No change in indicated subcooling because the failed Tcold Transmitter will have a 'bad' tag associated with it, and will not be used as an input.

C.✓ Large decrease in indicated subcooling because the instrument selected for subcooling is the highest reading Wide Range loop temperature or the highest reading core exit thermocouple.

D. Small increase in indicated subcooling because the average Wide Range cold leg temperature is provided as an input to the RCS Subcooling Margin Monitor.

C is correct
A is credible because NPIS uses TCs
B is credible as NPIS highlights inputs that are suspect.
D is plausible as some systems do use averages

Knowledge of the effect that a loss or malfunction of the ITM system will have on the following: Natural circulation indications

Question Number: 32

Tier 2 Group 2

Importance Rating: 3.5

Technical Reference: SY 1300202

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R4

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

22. 022 A4.04 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A reactor trip has occurred from 100% power.
- RCS pressure is 1700 psig and lowering slowly.
- Containment pressure is 2.5 psig and rising slowly.
- All equipment is running as designed.

Which ONE (1) of the following describes the Containment Cooling alignment at this time?

	ESW Supply and Return Valves	Containment Coolers
A.	Throttled	Fast Speed
B.	Throttled	Slow Speed
C.	Open	Fast Speed
D.✓	Open	Slow Speed

D is correct. At this RCS pressure, SI is actuated. Fans shift to slow speed and ESW supply and return valves open
A and B are incorrect because the ESW valves are no longer throttled.
C is incorrect because fans shifted to slow on the SI signal
Ability to manually operate and/or monitor in the control room: Valves in the CCS

Question Number: 14

Tier 2 Group 1

Importance Rating: 3.1

Technical Reference: SYS 1302600, 1408900

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1302600 R9, 1408900 R5

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

23. 022 G2.1.32 002/BANK/WCNOC/LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The crew is performing actions of EMG CS-01, Loss of All AC Power Without SI Required.
- Power has been restored to Bus NB01.

Which ONE (1) of the following describes the operation of the Charging Pumps (CCP) following this event?

May be started...

A.✔ ONLY if seal injection has been isolated, to prevent damage to the RCP seal package.

B. ONLY if seal leakoff has been isolated, to prevent overflow of VCT to Recycle Holdup Tanks.

C. ONLY if a CCW Pump is operating, to prevent damage to the CCP seals.

D. ONLY if a CCW Pump is operating, to prevent flashing in the thermal barrier heat exchanger.

A. Correct

B incorrect. Seal leakoff will be isolated but not required for Charging Pump alignment

C incorrect. CCW will also be isolated at this point, but normally if CCW is operating, thermal shock would not be a concern

D incorrect. Flashing can be a concern on reinitiation of CCW but not in this plant condition

Ability to explain and apply all system limits and precautions.

Question Number: 42

Tier 1 Group 1

Importance Rating: 3.4

Technical Reference: OFN BB-007

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732417 R3

10 CFR Part 55 Content: 41.10

Comments:

Source:	BANK	Source If Bank:	WCNOC
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

24. 025 AK2.01 003/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is in Mode 5.
- "A" RHR Pump is in service
- Reduced Inventory operations are in progress.
- RCS loop level indicates 17 inches.
- The crew commences raising RCS level per GEN 00-008, Reduced Inventory Operations.
- "A" RHR Pump flow and discharge pressure begins oscillating from 900 gpm to 1500 gpm.
- The crew enters OFN EJ-015, Loss of RHR Cooling.

Which ONE (1) of the following describes the FIRST action required in accordance with EJ-015?

A. Isolate Letdown.

B. Stop "A" RHR Pump.

C. Throttle closed the RHR Heat Exchanger Outlet valve.

D✓ Throttle closed the RHR Heat Exchanger Bypass Flow Control Valve.

D is correct. Raise level and throttle closed on RHR HX bypass in accordance with foldout page criteria of EJ-015.
A is incorrect but plausible because it would be performed after attempting to restore RHR flow
B is plausible because it would be performed if lowering flow was inneffective.
C is plausible because lowering HX flow would also cause cavitation to lower, but only if Bypass flow control valve was in manual

Knowledge of the interrelations between the Loss of Residual Heat Removal System and the following: RHR heat exchangers

Question Number: 43

Tier 1 Group 1

Importance Rating: 2.9

Technical Reference: OFN EJ-015

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732425 R3

10 CFR Part 55 Content: 41.10

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

25. 026 A4.01 002/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A LOCA has occurred.
- Containment pressure is 34 psig.
- NEITHER train of Containment Spray automatically actuated.

What is required for the reactor operator to actuate Containment Spray?

A.✔ Rotate two Spray Actuation handswitches to ACTUATE simultaneously. SI signal is not required to be present

B. Rotate two Spray Actuation handswitches to ACTUATE one at a time. SI signal is not required to be present

C. Rotate two Spray Actuation handswitches to ACTUATE simultaneously and SI must also be manually actuated.

D. Rotate two Spray Actuation handswitches to ACTUATE one at a time and SI must also be manually actuated.

A. Correct

B. Incorrect. Switches must be turned together to satisfy 2 of 2 trains and initiate spray.

C. Incorrect. SI typically would be actuated but it is not required.

D. Correct. Switches turned simultaneously, and SI is not required.

Ability to manually operate and/or monitor in the control room: CSS controls

Question Number: 15

Tier 2 Group 1

Importance Rating: 4.5

Technical Reference: M-744-00025

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1302600 R3

10 CFR Part 55 Content: 41.7

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

26. 026 AA2.01 004/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The unit is operating at 100% power.
- All plant systems are in a normal alignment.
- CCW Surge Tank level is rising.
- CCW Surge Tank Vent valve has closed.

Which ONE (1) of the following is the location of the leak, and the reason for the vent valve closure?

A. Seal Water Return Heat Exchanger; High Radiation

B.✔ CVCS Letdown Heat Exchanger; High Radiation

C. Seal Water Return Heat Exchanger; High CCW Surge Tank Level

D. CVCS Letdown Heat Exchanger; High CCW Surge Tank Level

A is incorrect because while Surge tank level would rise, radiation would not be expected to increase, RCP leakoff is not subjected to the intense radiation fields seen in the core.
B is correct.
C is incorrect because while Surge tank level would rise, the valve does not close on high level.
D is incorrect. Correct component for the leak. The vent valve does not close on surge tank level.

Ability to determine and interpret the following as they apply to the Loss of Component Cooling Water: Location of a leak in the CCWS

Question Number: 44

Tier 1 Group 1

Importance Rating: 2.9

Technical Reference: SY 140800

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 140800 R8

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

27. 027 AA2.02 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is at 100% power.
- Pressurizer Master Pressure Controller is in MANUAL.
- The controller output slowly fails LOW.

Which ONE (1) of the following describes the action(s) that will restore PZR pressure to the normal band?

A. Secure Backup Heaters ONLY

B.✓ Secure Backup Heaters AND open Spray Valves

C. Energize Backup Heaters ONLY

D. Energize Backup Heaters AND Close Spray Valves

B is correct. If controller output fails low, it is calling for higher pressure. Spray will close and heaters will turn on.
A is incorrect because controller output failing low will energize heaters, but spray will not open.
D is incorrect because the action is for a controller failing high
C is incorrect because it is action for response to the high failure

Ability to determine and interpret the following as they apply to the Pressurizer Pressure Control Malfunctions: Normal values for RCS pressure

Question Number: 45

Tier 1 Group 1

Importance Rating: 3.8

Technical Reference: SY 130100

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R10

10 CFR Part 55 Content: 41.7

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

28. 027 K2.01 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following states the power supplies to Containment Atmospheric Control Fans "A" and "B"?

A.✓ PG19 and PG20

B. PG20 and PG25

C. NG01 and NG02

D. NG03 and NG04

A is correct.
B is plausible because it contains 1/2 correct answers.
C and D are credible because Containment Coolers have safety related power supplies, and some of the atmospheric control components have safety related power supplies

Knowledge of bus power supplies to the following: Fans

Question Number: 33

Tier 2 Group 2

Importance Rating: 3.1

Technical Reference: SY 1302800

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R2

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

29. 028 AK1.01 003/BANK/WTSI/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The unit is operating at 100% power.
- A reference leg leak develops on the controlling PZR Level Transmitter.

Which ONE (1) of the following describes the effect on pressurizer level indication?

A. The controlling pressurizer level channel will indicate slightly higher than actual level, and remain lower than the cold-calibrated pressure level instrument.

B. The controlling pressurizer level channel will indicate slightly lower than actual level, and remain lower than the cold-calibrated pressurizer level instrument.

C. ✓ The controlling pressurizer level channel will indicate slightly higher than actual level, and remain higher than the cold-calibrated pressurizer level instrument.

D. The controlling pressurizer level channel will indicate slightly lower than actual level, and remain higher than the cold-calibrated pressurizer level instrument.

C is correct. Correct. The cold calibrated pressurizer level instrument is calibrated for temperatures far lower than normal operating temperatures and will indicate lower. When the containment atmospheric temperature rises, the pressurizer reference leg will heat up, causing density to decrease, and exerting less pressure on the reference leg side of the transmitter. This will result in an increase in indicated level. A, B, and D are incorrect but credible because each of the options contains either a response that is similar to the correct response or a response for a variable leg failure

Knowledge of the operational implications of the following concepts as they apply to Pressurizer Level Control Malfunctions: PZR reference leak abnormalities

Question Number: 58

Tier 1 Group 2

Importance Rating: 2.8

Technical Reference: GFES CH 7 Sensors and Detectors

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1024301 R9

10 CFR Part 55 Content: 41.7

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

30. 029 EA1.14 002/BANK/WOLF CREEK/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- Reactor power is at 100%.
- All systems are in automatic.
- An Anticipated Transient Without Scram (ATWS) has occurred.
- Both manual and automatic reactor trips have failed.
- Tavg indicates 596 degrees F.
- PZR PORVs are intermittently opening.
- Bank D rods are inserting automatically at approximately 72 steps per minute.

Which ONE (1) of the following actions by the crew will insert negative reactivity at the highest rate?

A.✔ Allow the control rods to insert AUTOMATICALLY while initiating RCS boration

B. Allow the control rods to insert AUTOMATICALLY while allowing the RCS to heat up.

C. Place rod control in MANUAL and insert Control Rods while allowing the RCS to heat up.

D. Place rod control in MANUAL and insert Control Rods while initiating RCS boration.

A Correct.
B Incorrect. Allowing heatup is a last resort
C Incorrect. Rods are already inserting at the fastest rate possible
D Incorrect. If rods were inserting at a slower rate, this would be correct

Ability to operate and monitor the following as they apply to a ATWS: Driving of control rods into the core

Question Number: 46

Tier 1 Group 1

Importance Rating: 4.2

Technical Reference: FR-S1 step 1 RNO

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732339 R3

10 CFR Part 55 Content: 41.10

Comments:

Source:	BANK	Source If Bank:	WOLF CREEK
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

31. 034 A1.02 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is in Mode 6.
- Core Alterations are in progress.
- Refueling Cavity level is lowering slowly.

Which ONE (1) of the following describes the MINIMUM Refueling Cavity level allowed by technical specifications that still allows core alterations to continue?

23 feet above the...

A. active fuel

B.✔ reactor vessel flange

C. refueling cavity floor

D. manipulator crane fully withdrawn position

B is correct.
A and C are credible because they are each a realistic starting point for refueling
D is credible because it is directly related to refueling and there are assumptions on how much water will cover the fuel assembly with the mast fully withdrawn

Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the Fuel Handling System controls including: Water level in the refueling canal

Question Number: 34

Tier 2 Group 2

Importance Rating: 2.9

Technical Reference: TS 3.9.7

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732109 R3/R5

10 CFR Part 55 Content: 41.10/43.2

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

32. 035 A2.06 002/BANK/WTSI/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A reactor trip has occurred due to a small break LOCA.
- Safety Injection is actuated.
- The crew is performing action of EMG ES-11, Post LOCA Cooldown and Depressurization.
- RCS pressure lowered to 1680 psig and is stable.
- Containment pressure peaked at 2.3 psig and is stable.

Which ONE (1) of the following describes the availability of Condenser Steam Dumps and the requirements for RCS cooldown in EMG ES-11?

Condenser Steam Dumps are...

A.✔ available; cool down the RCS at a rate not to exceed 100 degrees F per hour.

B. available; cool down the RCS at the maximum attainable rate. Cooldown rate restrictions do not apply.

C. NOT available; cool down the RCS at a rate not to exceed 100 degrees F per hour.

D. NOT available; cool down the RCS at the maximum attainable rate. Cooldown rate restrictions do not apply.

A is Correct. MSIS has not occurred yet, and no other failures indicate that SDs cannot be used. The concept of cooldown rate restrictions not being applicable is credible because cooldown at maximum rate is performed in E-3, and the EOPs represent emergency conditions.

B is incorrect because cooldown rates do apply.

C and D are incorrect because steam dumps remain available, so cooldown rates do apply.

Ability to (a) predict the impacts of the following mal-functions or operations on the S/GS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Small break LOCA

Question Number: 35

Tier 2 Group 2

Importance Rating: 4.5

Technical Reference: SY 1503900, 1504100, LO 1732321, EMG ES-11

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1503900 R3, 1504100 R4, LO 1732321 R3

10 CFR Part 55 Content: 41.10

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

33. 037 AK3.07 003/BANK/SQN/LOWER//RO/WOLF CREEK/10/2007/NO

When performing EMG E-3, Steam Generator Tube Rupture, why is it important to isolate the ruptured steam generator from the intact steam generators?

A. All of the contingencies assume that the cooldown will NOT commence until this action is taken.

B.✓ Ensures RCS Subcooling is maintained when primary to secondary leakage is terminated in subsequent steps.

C. Ensures that the subsequent cooldown will NOT result in a challenge to the PTS Safety Function.

D. Ensures that the differential pressure between the intact and ruptured SGs remains high enough to ensure early detection of subsequent failures.

A. Incorrect. Contingencies address inability to isolate ruptured SG in ECA series.
B. Correct. Cooling down the ruptured SG by depressurizing it will cause a higher DP, and more flow, from the RCS to the SG.
C. Incorrect. Challenges to Integrity are controlled by C/D rate.
D. Incorrect. Having a DP between the ruptured and intact SGs does not ensure early detection of additional failures.

Knowledge of the reasons for the following responses as they apply to the Steam Generator Tube Leak: Actions contained in EOP for steam generator tube leak

Question Number: 60

Tier 1 Group 2

Importance Rating: 4.2

Technical Reference: BD EMG E-3

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732325 R2

10 CFR Part 55 Content: 41.10

Comments:

Source:	BANK	Source If Bank:	SQN
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

34. 038 EK1.01 003/MODIFIED/VC SUMMER/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A SGTR has occurred.
- Current conditions are:

• RCS pressure	1450 psig
• RCS temperature	552°F (Core Exit Thermocouples)
• SG pressures	1100 psig (A)
	1185 psig (B)
	1050 psig (C)
	1085 psig (D)

- SG "B" has been confirmed as the SG with the rupture.
- The crew is preparing to initiate an RCS cooldown to target temperature.
- The CRS directs you to initiate RCS cooldown to a target temperature of 508°F.

Which ONE (1) of the following values of subcooling will be indicated when the RCS cooldown to target temperature is complete?

A. 74°F

B. 70°F

C. 65°F

D.✓ 59°F

D is correct. Ruptured SG at 1200 psig, saturation temp is 567. Therefore, 59 degrees of subcooling will exist
A, B, and C are plausible because each SG pressure corresponds to a value in the related option.

Knowledge of the operational implications of the following concepts as they apply to the SGTR: Use of steam tables

Question Number: 47

Tier 1 Group 1

Importance Rating: 3.1

Technical Reference: Steam Tables, EMG E-3 Step 12

Proposed references to be provided to applicants during examination: Steam Tables

Learning Objective: LO 1732325 R2

10 CFR Part 55 Content: 41.10

Comments:

Source:	MODIFIED	Source If Bank:	VC SUMMER
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

35. 039 K1.05 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following describes the operation of the steam supply to the Low Pressure turbines of the Main Turbine Generator?

A. Supplied by High Pressure Extraction Steam; isolated on turbine trip by Main Turbine Stop Valve closure.

B. Supplied by High Pressure Extraction Steam; isolated on turbine trip by Combined Intercept Valve closure.

C. Supplied by Hot Reheat Steam; isolated on turbine trip by Main Turbine Stop Valve closure.

D.✓ Supplied by Hot Reheat Steam; isolated on turbine trip by Combined Intercept Valve closure.

D is correct.
A is incorrect as hot reheat supplies, and CIV isolates
B is incorrect because extraction steam does not supply the LP turbine
C is incorrect because CIVs isolate the supply

Knowledge of the physical connections and/or cause-effect relationships between the MRSS and the following systems: T/G

Question Number: 16

Tier 2 Group 1

Importance Rating: 2.5
Technical Reference: SY 1504600

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R3

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

36. 041 K4.11 001/BANK/WOLF CREEK/HIGHER//RO/WOLF CREEK/10/2007/NO

The plant is at 90% power, when Main Turbine load rejection of 35% occurs.

Tave is 583 degrees F and Tref is 574 degrees F.

The Steam Dump System responds to this transient by arming and initially tripping open _________ groups of dump valves. Dump valves in the Steam Dump System will modulate until Tavg ______________.

A.✔ Two; is within 2 degrees F of Tref.

B. Two; matches Tref.

C. All; is within 2 degrees F of Tref.

D. All; matches Tref.

A is correct.
B is credible because there is no dead band in Steam Pressure Mode, but wrong because the steam dumps will be in Tave-Load reject mode
C and D are credible because all 4 groups open with Tave/Tref >16 degrees

Knowledge of SDS design feature(s) and/or interlock(s) which provide for the following: T-ave./T-ref. program

Question Number: 36

Tier 2 Group 2

Importance Rating: 2.8

Technical Reference: SY 1504100

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R3

10 CFR Part 55 Content: 41.7/5

Comments:

Source:	BANK	Source If Bank:	WOLF CREEK
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

37. 051 AA2.02 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is at 45% power.
- The following alarm is received:
  - ALR-00-116B, COND A VAC LO
- The crew enters OFN-AF-025, Unit Limitations, and initiates a load decrease.

Current conditions:

- Reactor power is 27%.
- Turbine backpressure indicates 5.5 inches Hg and stable.

Which ONE (1) of the following actions is required in accordance with OFN AF-025?

A. Continue the turbine load decrease until the unit is off-line.

B. Stop the turbine load decrease and stabilize reactor power.

C. Manually trip the Main turbine. The reactor may remain at power because power is below P-9

D✓ Manually trip the reactor and main turbine.

D is correct because Figure 2 shows in reactor/turbine trip region
A is incorrect because as step F2 <30% >4" trip reactor and ensure turbine trip
B and C are incorrect but credible because they contain actions that are appropriate for other conditions

Ability to determine and interpret the following as they apply to the Loss of Condenser Vacuum: Conditions requiring reactor and/or turbine trip

Question Number: 59

Tier 1 Group 2

Importance Rating: 3.9

Technical Reference: AF-025 Figure 2

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732435 R3

10 CFR Part 55 Content: 41.10

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

38. 055 EK3.02 004/BANK/VOGTLE/LOWER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following is a purpose of depressurizing all intact SGs to 260 psig during the performance of EMG C-0, Loss of All AC Power?

A. Reduces DP across SG U-tubes to minimize RCS inventory loss due to tube rupture.

B.✓ Reduces DP across RCP seals to minimize leakage and loss of RCS inventory.

C. Maximizes Natural Circulation flow before Reflux cooling begins as the RCS becomes saturated.

D. Maximizes Natural Circulation flow to allow reactor vessel head to cool since CRDM cooling fans are unavailable.

The correct answer is B

a. Incorrect - the most likely failure for this event is loss of inventory through failed RCP seals not SGTR.
b. Correct - reduces potential for a seal LOCA by reducing the driving force.
c. Incorrect - steaming is a method to increase natural circ and would occur, however minimizing inventory loss is a greater concern at this point.
d. Incorrect - steaming is a method to increase natural circ and would occur, however minimizing inventory loss is the greater concern at this point.

Knowledge of the reasons for the following responses as the apply to the Station Blackout: Actions contained in EOP for loss of offsite and onsite power

Question Number: 48

Tier 1 Group 1

Importance Rating: 4.3

Technical Reference: EMG C-0 and BD

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732329 R4

10 CFR Part 55 Content: 41.10

Comments:

Source:	BANK	Source If Bank:	VOGTLE
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

39. 056 AK3.02 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A reactor trip has occurred.
- Off-Site power is lost.
- All equipment has functioned as designed.
- The crew is entering EMG ES-02, Reactor Trip Response.

Which ONE (1) of the following describes the requirement for RCS temperature control and the reason for the requirement?

Check RCS Cold Leg temperatures trending to...

A. 557 degrees F; Post trip RCS temperature is stabilized at the no load value in forced or natural circulation.

B. 557 degrees F; Loss of Circulating Water Pumps requires use of ARVs for manual SG pressure control.

C. 561 degrees F; Post trip RCS temperature is stabilized at slightly higher than the no load value due to natural circulation setting up.

D.✓ 561 degrees F; Loss of Circulating Water Pumps requires use of ARVs for SG pressure control.

D is correct
A is incorrect. Without power Circ Watrer Pumps are lost resulting in loss of condenser causing loss of steam dumps. Tave will be controlled by ARVs at Tsat for 1125 psig (561)
B is incorrect, ARVs will work in AUTO and are not affected by loss of circ pumps.
C is incorrect, although correct temperature is used

Knowledge of the reasons for the following responses as they apply to the Loss of Offsite Power: Actions contained in EOP for loss of offsite power

Question Number: 49

Tier 1 Group 1

Importance Rating: 4.4

Technical Reference: EMG ES-02

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732315 R3

10 CFR Part 55 Content: 41.10/41.7

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

40. 058 G2.1.32 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant tripped from 100% power due to a loss of off-site power.
- 125 VDC Bus NK02 is currently deenergized.

Which ONE (1) of the following describes the effect on the plant?

A. EDG B will not automatically start

B. EDG B will start, but voltage indication will not be available.

C.✓ TDAFW Pump Trip Throttle valve must be locally adjusted to prevent overspeed.

D. TDAFW Pump will not automatically start. Steam Supply valves must be manually opened.

C is correct.
A and B are credible because loss of NK01 requires the running EDG (NE01) to be secured
D is credible because it is reasonable to assume that failure of a throttle valve to throttle would also disable the auto open feature

Conduct of Operations: Ability to explain and apply all system limits and precautions

Question Number: 50

Tier 1 Group 1

Importance Rating: 3.4

Technical Reference: OFN NK-020

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732430 R3

10 CFR Part 55 Content: 41.7

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

41. 059 A1.03 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is at 68% power.
- “B” Main Feedwater Pump trips.

Which ONE of the following actions is required?

A. Trip the reactor and enter E-0 due to inability to maintain SG levels.

B.✓ Reduce power to below 62% to maintain NPSH on “A” Main Feedwater Pump

C. Place Feedwater Control in Manual and maintain SG levels at the current power level.

D. Ensure all Condensate Pumps are operating to ensure adequate Main Feedwater Pump NPSH at the current power level.

B is correct.
A is incorrect because initial power is below 70%. If it was above, then reactor trip would be true.
C is incorrect because FRVs would be wide open and not able to support feed for the power level.
D is incorrect because even with all condensate pumps, the feed pump would not support current power

Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the MFW controls including: Power level restrictions for operation of MFW pumps and valves.

Question Number: 17

Tier 2 Group 1

Importance Rating: 2.7
Technical Reference: GEN-004

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732104 R5

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

42. 061 K1.05 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A reactor trip has occurred.
- Main Feedwater Pumps are tripped.
- "A" MDAFW Pump suction pressure indicates 6.7 psig on the MCB.
- TDAFW Pump suction pressure indicates 6.2 psig on the MCB.
- "B" MDAFW Pump suction pressure indicates 7.2 psig on the MCB.
- CST LO-LO 2 level alarm is actuated.

Which ONE (1) of the following describes the alignment of water sources to the AFW System?

A.✔ All AFW Pumps are aligned to the ESW System.

B. "A" MDAFW Pump and the TDAFW Pump are aligned to ESW. "B" MDAFW Pump is aligned to the Condensate Storage Tank.

C. "A" MDAFW Pump is aligned to ESW. "B" MDAFW Pump and the TDAFW Pump are aligned to the Condensate Storage Tank.

D. All AFW Pumps are aligned to the Condensate Storage Tank.

A is correct. Low suction pressure is 6.9 psig with a 2 of 3 coincidence.
B and C are incorrect as the LSP signal swaps all pump suctions.
D is incorrect because suction pressure is low enough to cause swapover for each

Knowledge of the physical connections and/or cause-effect relationships between the AFW and the following systems: Condensate system

Question Number: 19

Tier 2 Group 1

Importance Rating: 2.6

Technical Reference: SY 1406100

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R1

10 CFR Part 55 Content: 41.7

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

43. 061 K3.02 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A reactor trip has occurred.
- The TDAFW Pump has tripped on overspeed.
- "A" MDAFW Pump has tripped on overcurrent.
- "B" MDAFW Pump is running normally.

Which ONE (1) of the following describes the status of the AFW system?

A. Minimum Heat Sink requirements are met; AFW flow is provided to SGs B and C.

B.✓ Minimum Heat Sink requirements are met; AFW flow is provided to SGs A and D.

C. Minimum Heat Sink requirements are NOT met; AFW flow is provided to SGs B and C.

D. Minimum Heat Sink requirements are NOT met; AFW flow is provided to SGs A and D.

A is incorrect as AFW flow is to SG A and D, not B and C
B is correct as an AFW pump will supply 600 GPM
C is incorrect because minimum heat sink is avaiolable to SG A and D
D is incorrect as minimum heat sink is met; 300K lbm/hr versus requirement of 270K lbm/hr

Knowledge of the effect that a loss or malfunction of the AFW will have on the following: S/G

Question Number: 18

Tier 2 Group 1

Importance Rating: 4.2

Technical Reference: SY 1406100, EMG E-0, step 7

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1406100, R1, R3

10 CFR Part 55 Content: 41.7

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

44. 062 AA1.02 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A reactor trip and safety injection actuation have occurred.
- Off-Site power has been lost.
- Train "A" ESW Pumps did not start automatically or manually.

Which ONE (1) of the following actions are required due to the ESW failure?

A. Align Service Water to Train "A" ESW.

B. Cross-connect ESW headers.

C✓ Place "A" EDG output breaker in PTL and locally shutdown the EDG.

D. Align alternate cooling water flow to Train "A" ECCS Pumps or place in PTL.

C is correct due to OFN NB-030 Foldout Page 6.
A and B are incorrect but credible because procedure steps allow for this under different plant conditions
D is incorrect but credible because it is logically possible but not provided for in the procedure

Ability to operate and / or monitor the following as they apply to the Loss of Nuclear Service Water: Loads on the CCWS in the control room

Question Number: 51

Tier 1 Group 1

Importance Rating: 3.2

Technical Reference: OFN NB-030

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732444 R4

10 CFR Part 55 Content: 41.10

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

45. 062 G2.4.6 003/BANK/WTSI/LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- EMG C-0, “Loss of AC Power,” is being performed.
- Concurrent to the loss of power, a small break LOCA occurred.
- The crew has completed the following actions when off-site power is restored to NB01
- Safeguards pumps are in PTL
- RCP seals have been isolated
- MSIVs and FWIVs have been closed
- Depressurization of SGs is in progress

Which ONE (1) of the following actions is the FIRST to be taken following the restoration of off-site power?

A. Start an ESW pump

B. Start a Charging Pump

C.✓ Stabilize SG pressures

D. Initiate Safety Injection.

C is correct. First action while depressurizing and power has been restored is to stabilize pressures where they are at.
A, B, and D are credible options because each of them will be performed for current plant conditions, but performed either after the SGs are stabilized, or upon transition to the C series recovery procedure
Emergency Procedures / Plan Knowledge symptom based EOP mitigation strategies.

Question Number: 21

Tier 2 Group 1

Importance Rating: 3.1

Technical Reference: EMG C-0, LO 1732329

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R4

10 CFR Part 55 Content: 41.10

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

46. 062 K3.03 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is at 100% power.
- All systems are in normal alignments.
- The feeder to Load Center NG01 trips on overcurrent.
- NO operator action has been taken.

Which ONE (1) of the following describes the effect on the unit electrical alignment?

A. Battery Charger NK25 is powered. Battery NK11 is supplying 120 VAC Bus NN01.

B. Battery Charger NK25 has lost power. 120 VAC bus NN01 has transferred to the alternate supply.

C. Battery Charger NK21 is powered. 120 VAC bus NN01 has transferred to the alternate supply.

D.✓ Battery Charger NK21 has lost power. Battery NK11 is supplying 120 VAC Bus NN01.

D is correct. NG01 supplies charger NK21, and when power is lost, the inverter will be supplied from the associated battery.
A and B are incorrect because NG01 does not supply NK25.
C is incorrect because the inverter will not swap to the alternate supply if the battery is available

Knowledge of the effect that a loss or malfunction of the ac distribution system will have on the following: DC system

Question Number: 20

Tier 2 Group 1

Importance Rating: 3.7

Technical Reference: SY 1506300

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R2

10 CFR Part 55 Content: 41.7

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

47. 063 A3.01 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is at 100% power.
- The following alarm is received:
    - ALR 00-025C, NK01 TROUBLE
- An operator dispatched to NK01 reports a ground annunciator illuminated.

Which ONE (1) of the following voltage indications on the positive terminal indicates a ground on the positive terminal?

A.✓ 45 volts

B. 65 volts

C. 85 volts

D. 105 volts

A is correct. Low voltage to ground (<65) indicates a ground on the leg
B is incorrect but credible because it is the normal voltage from 1 leg to ground.
C is incorrect but credible because it is an abnormal voltage, just higher rather than lower
D is incorrect but credible for same reason as C
Ability to monitor automatic operation of the dc electrical system, including: Meters, annunciators, dials, recorders, and indicating lights

Question Number: 22

Tier 2 Group 1

Importance Rating: 2.7

Technical Reference: ALR 301, ALR 00-025C, SY 1506300

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1506300 R2

10 CFR Part 55 Content: 41.7

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

48. 064 A2.16 001/BANK/WOLF CREEK/HIGHER//RO/WOLF CREEK/10/2007/YES

Given the following:

- The unit is operating at 25% power.
- Emergency Diesel Generator (EDG) A is loaded to 5800 KW while operating in parallel with the grid during a surveillance test.
- A reactor trip and safety injection occurs coincident with a Loss of Off-Site Power.

Which ONE (1) of the following describes the response of EDG "A" output breaker, and the subsequent action required? EDG "A" output breaker will…

A. remain closed with EDG A load at 5800 KW. Trip the EDG output breaker to initiate load sequencing.

B. remain closed with EDG A loads shed. Verify automatic load sequencing.

C.✓ open and then reclose to allow LOCA sequencer to actuate. Verify automatic load sequencing occurs.

D. open and then reclose to allow the shutdown sequencer to actuate. Verify automatic load sequencing occurs.

DG Sequencer will initiate a trip of the DG output breaker when SI occurs and off-site power is lost. Once the breaker is open, the sequencer starts its process for reclosing the breaker and placing appropriate loads on the bus. A and B are plausible because if load shed occurs with EDG tied to the bus, load will decrease. If there was an SI and the EDG was tied to the bus, then load may increase. D is plausible because when the EDG is placed in parallel mode for surveillance testing, controls are placed in positions other than the standby positions.

Ability to (a) predict the impacts of the following malfunctions or operations on the ED/G system; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of offsite power during full-load testing of ED/G

Question Number: 23

Tier 2 Group 1

Importance Rating: 3.3

Technical Reference: E-13NE10, E-12NF01

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1406401 R5

10 CFR Part 55 Content: 41.7/5

Comments:

Source:	BANK	Source If Bank:	WOLF CREEK
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	YES

49. 065 G2.1.2 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is operating at 100% power.
- A loss of Instrument Air has occurred.

Which ONE (1) of the following describes the Instrument Air pressure at which components begin to go to their FAIL position, and the criteria for requiring a reactor trip?

A. 105 psig; trip the reactor if equipment required for plant operation cannot be controlled.

B. 90 psig; trip the reactor if the Pressurizer Spray valves fail closed.

C.✓ 70 psig; trip the reactor if equipment required for plant operation cannot be controlled

D. 30 psig; trip the reactor if Pressurizer Spray valves fail closed.

A is incorrect but credible because it is the setpoint at which the standby compressor will start.
B is incorrect but credible because it is the pressure at which all compressors will be running
D is incorrect but credible because it is the pressure at which most components fail
C is correct.

Conduct of Operations: Knowledge of operator responsibilities during all modes of plant operation.

Question Number: 52

Tier 1 Group 1

Importance Rating: 3.0

Technical Reference: OFN KA-019

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732429 R3

10 CFR Part 55 Content: 41.10

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

50. 068 K1.07 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Control room operators determine RCDT level is rising unexpectedly during operation in Mode 3. An investigation is begun to determine the source of in-leakage.

What are potential in-leakage sources?

A. Excess Letdown and Refueling Canal drains.

B. SIS Accumulator drains and Pressurizer Relief Tank.

C. RCS Loop drains and Reactor Make-up Water.

D✔ Reactor Vessel flange leak-off and RCP #2 seal leakoff.

A incorrect. Refueling canal drains to normal ctmt sump. Excess Letdown can be aligned to PRT or RCDT.

B incorrect because SI drains go to ctmt normal sump.

C is incorrect because Reactor Makeup Water is not supplied to RCDT.

D is correct

Knowledge of the physical connections and/or cause effect relationships between the Liquid Radwaste System and the following systems: Sources of liquid wastes for LRS

Question Number: 37

Tier 2 Group 2

Importance Rating: 2.7

Technical Reference: LO 1733209, AP 07B-003

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R6,R7

10 CFR Part 55 Content: 41.11

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

51. 072 G2.1.28 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following describes the function of GT RE-59 and GT RE-60, Containment High Range Radiation Monitors?

A.✓ Required by technical specifications for Post Accident Instrumentation; used to provide release assessment for use by operators in determining the need to invoke site emergency plans.

B. Required by technical specifications for Post Accident Instrumentation; used to determine the size of the RCS break inside containment.

C. NOT required by technical specifications, but provides indication of containment conditions for use in determining adverse conditions; used to provide release assessment for use by operators in determining the need to invoke site emergency plans.

D. NOT required by technical specifications, but provides indication of containment conditions for use in determining adverse conditions; used to determine the size of the RCS break inside containment.

A is correct.
B is incorrect but credible because they are required for PAS.
C is incorrect but credible because the purpose is correct
D is incorrect but credible because it is a combination of the other options
Conduct of Operations: Knowledge of the purpose and function of major system components and controls.

Question Number: 38

Tier 2 Group 2

Importance Rating: 3.2

Technical Reference: TS 3.3.3, SY 1407300

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1407300 R1/R6

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

52. 073 K4.01 001/BANK/WCNOC Q16218/LOWER//RO/WOLF CREEK/10/2007/NO

A Process Rad Hi-Hi Main Control Board alarm has been generated from SJ RE-02, Steam Generator Blowdown Sample Radiation Monitor.

Which ONE (1) of the following valves will automatically close ?

A.✓ BM HV-6, S/G "B" Blowdown Downstream Isolation Valve.

B. BM HV-21, S/G "C" Blowdown Upper Isolation Valve.

C. BM HV-38, S/G "D" Blowdown Lower Isolation Valve.

D. BM HV-54, S/G Blowdown Discharge Pumps Discharge Flow Control Valve.

A is correct due to it shutting on BSPIS.
B & C are incorrect but they do shut on a SGBSIS.
D is incorrect since valve does not shut on either signal.

Knowledge of PRM system design feature(s) and/or interlocks which provide for the following: Release termination when radiation exceeds setpoint

Question Number: 24

Tier 2 Group 1

Importance Rating: 4.0

Technical Reference: SY 1503800, OFN SP-010

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R5

10 CFR Part 55 Content: 41.13

Comments:

Source:	BANK	Source If Bank:	WCNOC Q16218
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

53. 076 A1.02 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is at 100% power.
- "A" CW Bay tagged out for diver inspection.
- Service Water Pump B is running.
- Service Water Pump C has tripped.
- Service Water Header Pressure is 50 psig and lowering slowly.

Which ONE (1) of the following describes the effect on the unit, and action that may be required?

A. Generator Hydrogen Cold Gas temperatures will rise; throttle open the Generator H2 cooler supply valves.

B.✓ Generator Hydrogen Cold Gas temperatures will rise; Reduce generator load and VAR load as necessary to maintain Cold Gas temperatures within limits.

C. Condensate Pump seal temperature will rise; place a second Closed Cooling Water Pump in service.

D. Steam Packing Exhauster temperatures will rise; trip the main turbine.

B is correct
C and D are incorrect because OFN AF-025 does not consider these conditions for limiting plant operation
A is incorrect because outlets are throttle valves and changing position would rob flow from other vital components such as EHC

Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the SWS controls including: Reactor and turbine building closed cooling water temperatures.

Question Number: 25

Tier 2 Group 1

Importance Rating: 2.6
Technical Reference: OFN AF-025

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1407600 R5

10 CFR Part 55 Content: 41.8
Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

54. 078 A4.01 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is at 100% power.
- An Instrument Air leak is occurring.
- Instrument Air Header Pressure indication KA PI-40, indicates 85 psig and is stabilizing.

Assuming the leak is NOT isolated, which ONE (1) of the following describes the operation of plant equipment?

Backup Nitrogen accumulators allow full control of Feedwater Reg Valves for up to...

A. 4 hours, and full control of AFW flow control valves for up to 4 hours.

B✓ 4 hours, and full control of AFW flow control valves for up to 8 hours.

C. 8 hours, and full control of AFW flow control valves for up to 4 hours.

D. 8 hours, and full control of AFW flow control valves for up to 8 hours.

B is correct.
A is incorrect because AFW accumulators are designed to last 8 hours
C and D are incorrect because FRV accumulators are sized to supply 4 hours of service with loss of air

Ability to manually operate and/or monitor in the control room: Pressure gauges.

Question Number: 26

Tier 2 Group 1

Importance Rating: 3.1
Technical Reference: OFN KA-019

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1407800 R5
10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

55. 078 G2.4.50 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is at 100% power.
- The following alarm is received in the control room:
  - ALR 00-091A, INST AIR DRYER PRESS LOW
- All other alarms are clear.

Which ONE (1) of the following is the setpoint of the alarm, and an action that is required in accordance with the alarm response?

A. 70 psig; check the Service Air Supply Valve, PV-11, closed.

B. 70 psig; ensure the lead air dryer train is in service.

C.✓ 100 psig; check the Service Air Supply Valve, PV-11, closed.

D. 100 psig; ensure the lead air dryer train is in service.

C is correct. Alarm at 100 psig. Compressor discharge pressure alarm is at 112. Should check lag dryer train in service

A and B incorrect because setpoint is for when components start to fail and close to reactor trip setpoint.

D is incorrect because the lag train, not lead train, would be placed in service

Emergency Procedures / Plan Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.

Question Number: 27

Tier 2 Group 1

Importance Rating: 3.3

Technical Reference: ALR 00-091A

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1407800 R2

10 CFR Part 55 Content: 41.10

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

56. 103 K4.04 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following describes the requirements for operation of the personnel access hatch and the emergency access hatch?

A. EITHER access hatch may be used for routine entry to containment when Containment Integrity is required; hatches are mechanically interlocked so that only 1 door may be opened at a time.

B. EITHER access hatch may be used for routine entry to containment when Containment Integrity is required; hatches are electrically interlocked so that only 1 door may be opened at a time.

C✓ The Emergency Access Hatch is used when the Personnel Access Hatch is unavailable; hatches are mechanically interlocked so that only 1 door may be opened at a time.

D. The Emergency Access Hatch is used when the Personnel Access Hatch is unavailable; hatches are electrically interlocked so that only 1 door may be opened at a time.

C is correct.
B and D are incorrect but credible because the doors are interlocked, just not electrically
A is incorrect because the emergency hatch is not used for normal ingress/egress

Knowledge of containment system design feature(s) and/or interlock(s) which provide for the following: Personnel access hatch and emergency access hatch

Question Number: 28

Tier 2 Group 1

Importance Rating: 2.5

Technical Reference: SY 1303200

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R6

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

57. E02 G2.4.49 002/BANK/WTSI/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The reactor has tripped
- Safety Injection is actuated.
- The crew has transitioned to EMG ES-03, SI Termination.
- Safety Injection is reset.
- SI and RHR Pumps have just been stopped.
- When aligning Letdown, PZR level cannot be maintained with normal Charging.

Which ONE (1) of the following is required?

A. Open the BIT outlet valves and verify letdown is isolated.

B. Re-initiate Safety Injection.

C.✓ Start ECCS pumps as needed.

D. Start the NCP and increase pressurizer level.

C is correct. When terminating SI, if PZR level or RCS subcooling cannot be maintained, start ECCS Pumps
A, B, and D are credible because they represent actions of the proceure that may be performed for other circumstances

Emergency Procedures / Plan Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.

Question Number: 62

Tier 1 Group 2

Importance Rating: 4.0

Technical Reference: ES-03 Foldout

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732316 R3

10 CFR Part 55 Content: 41.10

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

58. E03 EK3.3 002/BANK/SURRY/LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant has experienced a Small Break LOCA.
- EMG ES-11, Post LOCA Cooldown and Depressurization is in progress.
- All RCPs are running.
- RCS pressure is 1620 psig.
- An RCS cooldown has been initiated by dumping steam to the atmosphere.

Which ONE (1) of the following describes the optimum RCP configuration, and the basis for this configuration?

A. All RCPs should be stopped; minimize RCS inventory loss when the break uncovers.

B. One RCP should be stopped; produces effective heat transfer, provides boron mixing for RHR operations, and provides RCS pressure control.

C. All RCPs should be left running; ensures symetric heat transfer to the S/Gs, aids in RCS pressure control, and prevents steam voiding in the Reactor vessel head.

D✓ Three RCPs should be stopped; minimizes RCS heat input, and still produces effective heat transfer and RCS pressure control.

D is correct. One RCP is left running to ensure heat transfer and mixing of RCS
A, B, and C are incorrect because they all represent valid reasons for tripping RCPs in other accident conditions

Knowledge of the reasons for the following responses as they apply to the Post LOCA Cooldown and depressurization: Manipulation of controls required to obtain desired operating resultsduring abnormal and emergency situations

Question Number: 61

Tier 1 Group 2

Importance Rating: 3.9
Technical Reference: ES-11 BD

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732321 R3

10CFR: 41.10

Comments

Source:	BANK	Source If Bank:	SURRY
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

59. E04 EK2.2 005/BANK/HARRIS/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A LOCA outside containment has occurred.
- The crew is performing the actions in EMG-C12, LOCA Outside Containment.

Which ONE (1) of the following strategies is the FIRST to be attempted to isolate the break AND which indication is used to determine if the leak has been isolated in accordance with EMG C-12, LOCA Outside Containment?

A.✓ Isolate RHR piping connections; RCS pressure is monitored, because SI flow will repressurize the RCS with the break isolated.

B. Isolate SI piping connections; Pressurizer level is monitored, because with the break isolated, RCS inventory will rapidly rise.

C. Isolate SI piping connections; RCS pressure is monitored, because SI flow will repressurize the RCS with the break isolated.

D. Isolate RHR piping connections; Pressurizer level is monitored, because with the break isolated, RCS inventory will rapidly rise.

A-Correct.
B-Incorrect. RCS inventory will increase, but may not immediately show up on PZR level. Also, RHR is isolated before SI is isolated
C-Incorrect. RHR is isolated
D-Incorrect. RCS pressure is the monitored parameter

Knowledge of the interrelations between the (LOCA Outside Containment) and the following: Facility's heat removal systems, including primary coolant, emergency coolant, the decay heat removal systems, and relations between the proper operation of these systems to the operation of the facility.

Question Number: 53

Tier 1 Group 1

Importance Rating: 3.8

Technical Reference: EMG C-12

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO1732333 R3

10 CFR Part 55 Content: 41.10

Comments:

Source:	BANK	Source If Bank:	HARRIS
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

60. E05 EK3.3 002/BANK/WTSI/LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A loss of feedwater has resulted in a Reactor Trip
- The crew is performing actions of EMG FR-H1, Loss of Secondary Heat Sink.
- RCS Feed and Bleed has been established.
- All S/Gs indicate 5% wide range level.
- All hot leg temperatures indicate approximately 610 degrees F
- The TDAFWP has just become available.

Which ONE (1) of the following describes the maximum AFW flow rate AND the reason for the limit?

A.✓ One (1) S/G should be fed at less than 35,000 lbm/hr because the S/Gs are hot and dry.

B. Feed All S/Gs at less than 35,000 lbm/hr to limit Pressurized Thermal Shock.

C. One (1) S/G should be fed at greater than 270,000 lbm/hr because the S/Gs are hot and dry.

D. Feed all S/Gs at greater than 270,000 lbm/hr to limit Pressurized Thermal Shock.

A is correct.
C is incorrect because flow will be limited due to hot/dry conditions
B and D are incorrect because only 1 SG will be fed. All of these options are credible because they could be true for different plant conditions. In this case, all SGs are hot/dry, so only 1 is fed. If 3 SGs were hot and dry and 1 was not, it could fed at max rate. If none were hot and dry, they could all be fed

Knowledge of the reasons for the following responses as they apply to the (Loss of Secondary Heat Sink) Manipulation of controls required to obtain desired operating results during abnormal, and emergency situations.

Question Number: 54

Tier 1 Group 1

Importance Rating: 4.0

Technical Reference: EMG FR-H1

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732346 R1

10 CFR Part 55 Content: 41.10

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

61. E07 EA2.2 004/BANK/WTSI/LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A Steam Generator Tube Rupture has occurred.
- During the performance of EMG E-3, additional failures occurred.
- The crew is performing EMG C-32, SGTR with Loss of Reactor Coolant - Saturated Recovery Desired.
- The STA determines that yellow conditions exist on the Core Cooling and Inventory CSF Status Trees.
- The CRS decides to remain in EMG C-32 without referring to either yellow path procedure.

Which ONE (1) of the following is a reason that the yellow path procedures will not be performed for this condition?

A. EMG C-32 is a contingency procedure that maintains a higher priority than yellow path FRPs in the EMG network.

B.✔ Actions taken in the Core Cooling yellow path procedure will conflict with action taken in EMG C-32.

C. EMG C-32 accomplishes the same objectives as the 2 yellow path FRPs.

D. EMG C-32 contains a note that performance of all yellow path procedures are to be suspended until completion of the procedure.

B is correct. Note in FR-C3 that if EMG C-32 actions are in progress, do not perform.

A is incorrect because FRPs have priority over EMGs with the exception of EMG procedures or FR procedures that contain notes to the contrary, or EMG C-0.

C is incorrect because the procedures would conflict with each other.

D is incorrect because the note is actually contained in FR-C3.

Ability to determine and interpret the following as they apply to the (Saturated Core Cooling) Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.

Question Number: 63

Tier 1 Group 2

Importance Rating: 3.3

Technical Reference: FR-C3

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1723238 R1

10 CFR Part 55 Content: 41.10

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

62. E08 EA1.1 002/BANK/WBN/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The operating crew initiated a manual SI due to a small break LOCA.
- Equipment failures resulted in a RED condition on the Integrity CSF Status Tree.
- The crew completed EMG FR-P1, Response to Imminent Pressurized Thermal Shock Condition; a soak is in progress.

Which ONE (1) of the following actions is permitted?

A. Start a Charging Pump.

B. Energize PZR heaters.

C. Increase AFW flow to SGs.

D.✔ Isolate the SI Accumulators.

D is correct. It does not raise pressure or reduce temperature during the soak period A, B, & C all either raise RCS pressure or reduce temperature. All distractors require understanding of soak requirements. B would normally be a prudent action if not in soak; C is a standard action in EOPs with no RCPs running; A is action contained in all EOPs, was done previously in FR-P1 though (prior to soak).

Ability to operate and / or monitor the following as they apply to the (Pressurized Thermal Shock) Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Question Number: 64

Tier 1 Group 2

Importance Rating: 3.8

Technical Reference: EMG FR-P1

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732349 R3

10 CFR Part 55 Content: 41.10

Comments:

Source:	BANK	Source If Bank:	WBN
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

63. E11 EA1.3 006/BANK/WTSI/LOWER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following describes two objectives of EMG-C11, Loss of Emergency Coolant Recirculation?

A. Maximize SI flow to ensure core cooling and initiate makeup to the RWST to ensure RCS inventory can be maintained.

B. Reduce SI flow to delay depletion of the RWST and stabilize RCS temperature to minimize RCS inventory requirements.

C. Perform necessary system alignments to restore emergency coolant recirculation capability and stabilize RCS temperature to minimize RCS inventory requirements.

D.✓ Reduce SI flow to delay depletion of the RWST and perform necessary system alignments to restore emergency coolant recirculation capability

A Incorrect. SI is reduced to the minimum required for heat removal.
B Incorrect. Stabilizing RCS temperature is not an action or priority
C Incorrect. Stabilizing RCS temperature is not an action or priority
D Correct. The procedure has 3 objectives: Minimizes depletion of RWST, depressurize RCS to minimize break flow and cause accumulator injection, and continue attempts to restore recirculation capability

Ability to operate and / or monitor the following as they apply to the (Loss of Emergency Coolant Recirculation) Desired operating results during abnormal and emergency situations.

Question Number: 55

Tier 1 Group 1

Importance Rating: 3.7

Technical Reference: EMG C-11 BD

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732332 R1

10 CFR Part 55 Content: 41.10

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

64. E12 EK1.2 003/BANK/WTSI/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The crew is responding to a Steam Line Break.
- Due to equipment failures, EMG C-21, Uncontrolled Depressurization of All Steam Generators, is in progress.
- RCS cooldown rate was 118 degrees F in the last 60 minutes.

Which ONE (1) of the following describes the required AFW flow for this condition, and the basis in accordance with EMG C-21, Uncontrolled Depressurization of All Steam Generators?

A. Minimize AFW flow to ensure adequate secondary heat sink to maintain natural circulation in the RCS.

B. Maximize AFW flow to ensure adequate secondary heat sink to maintain natural circulation in the RCS.

C.✓ Minimize AFW flow to ensure components remain wet so that thermal stresses are minimized upon a feed flow increase.

D. Maximize AFW flow to ensure components remain wet so that thermal stresses are minimized upon a feed flow decrease.

C is correct. If RCS temperature decreased by more than 100 deg F in the previous hour, AFW flow must be reduced to 30K lbm/hr. (MIN)
A Incorrect. Minimum (30K) is the correct feed flow; however basis incorrect.
B Incorrect. Feed flow range incorrect and basis incorrect. 270K is normal (MAX)
D Incorrect. Feed flow range incorrect, basis is correct.

Knowledge of the operational implications of the following concepts as they apply to the (Uncontrolled Depressurization of all Steam Generators) Normal, abnormal and emergency operating procedures associated with (Uncontrolled Depressurization of all Steam Generators).

Question Number: 56

Tier 1 Group 1

Importance Rating: 3.5

Technical Reference: EMG C-21

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732334 R3

10 CFR Part 55 Content: 41.10

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

65. E14 EK2.1 001/BANK/WOLF CREEK/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A large break LOCA has occurred.
- The LOCA sequencer is activated.
- 20 seconds after sequencer activation CSAS signal generated.

Which ONE (1) of the following describes when the containment spray pumps will receive a start signal?

A. Immediately.

B. Immediately after the SI signal is reset, regardless of sequencer status.

C. 15 seconds after the sequencer times out.

D.✓ Immediately after the sequencer times out, as long as SI has NOT been reset.

D is correct. If a CSAS signal is generated, the spray pumps will immediately start unless the 15 second interval has passed. If the interval has passed, the Spray pumps will start immediately after the sequencer times out, as long as SI has not been reset. If SI has been reset, the Spray Pumps will start in 15 seconds.

A is incorrect. Plausible because they would start immediately if the 15 second interval had not passed.

B is incorrect. Plausible because a minor misunderstanding of system operation can lead to this conclusion

C is incorrect, but plausible because the only difference with the correct answer is the status of SI reset

Knowledge of the interrelations between the (High Containment Pressure) and the following: Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Question Number: 65

Tier 1 Group 2

Importance Rating: 3.4

Technical Reference: DWG E-13EN01

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1302600 R3

10 CFR Part 55 Content: 41.5

Comments:

Source:	BANK	Source If Bank:	WOLF CREEK
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

66. G2.1.19 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- During the performance of STN RJ-001, "Verification of Operability of Computer Processes", the Meteorological function of NPIS indicated stalled.
- Both CPUs are normal and all other links are normal.
- The Shift Manager declared the MET function inoperable.

Which choice best describes the status of NPIS and the required actions?

A. NPIS is lost, Take MET readings locally.

B. NPIS remains functional, initiate Emergency Response Data Systems (ERDS) link.

C. NPIS is lost, notify NRC ERDS inoperable per 10CFR72.

D.✓ NPIS remains functional, take MET readings locally.

The NPIS consists of hardware and software applications. The stem indicates one specific application has stalled which makes it inoperable and compensatory actions are required. It would be technically incorrect to declare the entire NPIS inoperable as there are no indications that the other applications do not meet the requirements of the STN. ERDS is a plausible distracter as it is required under some E-plan scenarios.
D is correct.
A is incorrect because NPIS is not lost.
B is incorrect because ERDS not necessary.
C is incorrect on both accounts.

Ability to use plant computer to obtain and evaluate parametric information on system or component STATUS.

Question Number: 68

Tier 3 Group 1

Importance Rating: 3.0

Technical Reference: OFN RJ-023

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732433 R2

10 CFR Part 55 Content: 41.7

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

67. G2.1.2 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant was at 100% power.
- A transient has occurred, and the following conditions exist:
  - Rods are NOT inserting.
  - Power Range NIs are lowering at approximately 3% per minute.
  - RCS Tavg is approximately 7 degrees F above Tref.
  - Tave and Tref are lowering.
  - Generator Load is lowering at approximately 5 MW per 2 seconds.

Which ONE (1) of the following reactivity control actions are required in accordance with AP-21-001, Conduct of Operations?

A. Leave Control Rods in AUTO; peer checks are required for this evolution.

B. Leave Control Rods in AUTO; peer checks are not required, but are desired, for this evolution.

C. Insert Control Rods in MANUAL; peer checks are required for this evolution.

D.✓ Insert Control Rods in MANUAL; peer checks are not required, but are desired, for this evolution.

D is correct. Rod control is not working properly and rods must be taken to manual. In an OFN peer checks are not required but desired if time and conditions permit per AP-21-001.

A and B are incorrect because rod control is not operating as designed. C is incorrect because during performance of OFN procedures, peer checks are not required

Knowledge of operator responsibilities during all modes of plant operation.

Question Number: 66

Tier 3 Group 1

Importance Rating: 3.0
Technical Reference: AP-21-001, OFN MA-00

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1733212 R4

10 CFR Part 55 Content: 41.10

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

68. G2.1.31 001/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is in Mode 3.
- RCS temperature is 530 degrees F.
- PZR pressure is 2060 psig.
- A Plant heatup is in progress

Which ONE (1) of the following describes the status of the indication related to the P-11 permissive on the Partial Trip and Permssive Panel?

A. P-11 Green light ON; PZR Low Pressure SI is enabled.

B. P-11 Green light ON; PZR Low Pressure SI is blocked.

C✓ P-11 Green light OFF; PZR Low Pressure SI is enabled.

D. P-11 Green light OFF; PZR Low Pressure SI is blocked.

C is correct.
A and B are incorrect but credible because with pressure >1970, P-11 is AUTO-OFF
D is incorrect because with PZR pressure >1970, SI auto unblocked

Ability to locate control room switches, controls and indications and to determine that they are correctly reflecting the desired plant lineup.

Question Number: 67

Tier 3 Group 1

Importance Rating: 4.2

Technical Reference: Status Ind Panel, M-744-00023, SY 1301200

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R4

10 CFR Part 55 Content: 41.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

69. G2.2.12 001/NEW//LOWER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following describes the MAXIMUM surveillance interval requirements for Technical Specification surveillances?

A. Category R1 and R2 surveillances MUST be performed within their allotted periodicity with NO extensions granted.

B. Category R1 surveillances MUST be performed within their allotted periodicity with NO extensions granted. Category R2 surveillances are allowed a 25% grace period for performance.

C. Category R2 surveillances MUST be performed within their allotted periodicity with NO extensions granted. Category R1 surveillances are allowed a 25% grace period for performance.

D.✓ BOTH Category R1 and R2 surveillances may be performed within their required periodicity with a 25% grace period.

D is correct.
A, B, and C are incorrect but plausible because they all test understanding of the grace period and extensions allowed. B and C further evaluate the applicants ability to evaluate the frequency of the surveillance on the grace period
Knowledge of surveillance procedures.

Question Number: 71

Tier 3 Group 2

Importance Rating: 3.0

Technical Reference: AP 29B-003, step 6.1.6

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732700 R7

10 CFR Part 55 Content: 41.10

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

70. G2.2.13 002/BANK/WCNOC/LOWER//RO/WOLF CREEK/10/2007/NO

A clearance order for the Instrument air valve for LF HV-96, CTMT Sump Pump Discharge Inner CTMT Isolation Valve, has been released by the clearance holder and tag removal has been authorized by the Shift Manager.

Which ONE (1) of the following defines the requirement for Independent Verification?

A.✓ May be performed by observation of positive plant indication response for tag removal.

B. Required when restoring non-safety related components inside Containment.

C. Requires both Safety Taggers to be present when a component is repositioned.

D. Is not required when removing tags for a Clearance Order in a high radiation area.

A correct.

B is incorrect because non-safety related components would not require IV

C is incorrect because both taggers are not required; verification is independent

D is incorrect because even though there may ybe a HRA, total dose would be evaluated prior to making a decision on functional verification for tag removal

Knowledge of tagging and clearance procedures.

Question Number: 70

Tier 3 Group 2

Importance Rating: 3.6

Technical Reference: AP 21E-001

Proposed references to be provided to applicants during examination: NONE

Learning Objective: NA

10 CFR Part 55 Content: 41.10/43.2

Comments:

Source:	BANK	Source If Bank:	WCNOC
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

71. G2.2.30 002/BANK/BVPS 2005 NRC/LOWER//RO/WOLF CREEK/10/2007/NO

Which ONE (1) of the following is the responsibility of the Reactor Operator during refueling operations?

A. Maintain a 1/M plot during fuel shuffle if ICRR is <0.35.

B.✔ Verify water level >minimum required once per 24 hours.

C. Verify the Fuel Handling Team qualifications with QUAL TOOL

D. Update the Control Room Status Board for each core alteration as it is performed.

B is correct. All other actions are performed by other personnel during Refueling
A and D are performed by the Reactor Engineer
C is performed by the Refueling SRO

Knowledge of RO duties in the control room during fuel handling such as alarms from fuel handling area, communication with fuel storage facility, systems operated from the control room in support of fueling operations, and supporting instrumentation.

Question Number: 69

Tier 3 Group 2

Importance Rating: 3.5
Technical Reference: GEN-009, FHP 02-011

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732109 T1

10 CFR Part 55 Content: 43.7, 41.10

Comments:

Source:	BANK	Source If Bank:	BVPS 2005 NRC
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

72. G2.3.1 099/BANK/ROBINSON/LOWER//RO/WOLF CREEK/10/2007/NO

Given the following:

- A Wolf Creek Radiation Worker has received 470 mRem radiation dose this year.
- He has received no dose extensions extensions and no emergency exists.

Which ONE (1) of the following is the additional total effective dose equivalent that the individual can receive this year without management concurrence and without exceeding WCNOC Annual Administrative Dose Limts?

A. 30 mRem.

B.✓ 1530 mRem.

C. 2530 mRem.

D. 4530 mRem.

A: Incorrect. 470 mRem plus 30 mRem = 500 mRem. 500 mRem is the WCGS dose limit if non-WCGS dose has not been determined for the current year.

B: Correct. 470 mRem plus 1530 mRem = 2000 mRem. 2000 mRem is the WCGS dose allowed for work performed at Wolf Creek.

C: Incorrect. 470 mRem plus 3530 mRem = 4000 mRem. 4000 mRem is the WCGS dose allowed with extension authorization if non-WCGS dose for the year has been determined.

D: Incorrect. 470 mRem plus 4530 mRem = 5000 mRem. 5000 mRem is the 10CFR20 dose limit. No extension authorization exists.

Knowledge of 10 CFR: 20 and related facility radiation control requirements

Question Number: 72

Tier 3 Group 3

Importance Rating: 2.6

Technical Reference: AP 25A-001

Proposed references to be provided to applicants during examination: NONE

Learning Objective: GT 1245201 LIMITS

10 CFR Part 55 Content: 41.13

Comments:

Called Bank but all numbers changed, so this is actually a modified item.

Source:	BANK	Source If Bank:	ROBINSON
Cognitive Level:	LOWER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

73. G2.3.2 004/BANK/VCS/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following conditions at a work site:

- Airborne activity - 3 DAC
- Radiation level - 40 mrem/hr.
- Radiation level with shielding - 10 mrem/hr.
- Time to place shielding - 15 minutes.
- Time to conduct task WITH respirator - 1 hour.
- Time to conduct task WITHOUT respirator - 30 minutes.

Assumptions:

- The airborne dose with a respirator will be zero.
- A dose rate of 40 mrem/hr will be received while placing the shielding.
- All tasks will be performed by one worker.
- Shielding can be placed in 15 minutes with or without a respirator.
- The shielding will not be removed

Which ONE (1) of the following would result in the lowest whole body dose?

A. Conduct task WITHOUT respirator or shielding.

B. Conduct task WITH respirator and WITHOUT shielding.

C. Place shielding while wearing respirator and conduct task WITH respirator.

D.✓ Place shielding while wearing respirator and conduct task WITHOUT respirator.

A INCORRECT 20 mrem (conduct task) + 3.75 mrem (airborne) = 23.75 mrem.

B INCORRECT 40 mrem (conduct task) + 0 mrem (airborne) = 40 mrem.

C INCORRECT 10 mrem (place shielding) + 10 (conduct task) + 0 mrem (airborne) = 20 mrem.

D CORRECT 10 mrem (place shielding) + 5 mrem (conduct task) + 3.75 mrem (airborne) 18.75 mrem. NOTE: 3 DAC x 2.5 mrem = 7.5 mrem

Knowledge of facility ALARA program.

Question Number: 73

Tier 3 Group 3

Importance Rating: 2.5

Technical Reference: GT 1245201

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R39

10 CFR Part 55 Content: 41.13

Comments:

Source:	BANK	Source If Bank:	VCS
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

74. G2.4.46 101/BANK/SEQUOYAH BANK/HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- Mode 1 at 68% power.
- One Shutdown Bank A, Group 2 Rod has dropped into the core.
- The crew is recovering the dropped rod.
- ALR-00-79A, ROD CTRL URG FAIL is received.

Which ONE of the following describes the Rod Control System Urgent Failure alarm alarm and the plant response?

The alarm is......

A. unexpected. Rod withdrawal will not occur until the alarm is reset at the Logic Cabinet.

B. unexpected. Rod withdrawal will not occur until the alarm is reset at the Power Cabinet.

C. expected. The alarm will have to be reset to allow rod recovery to continue.

D✓ expected. Rod withdrawal is unaffected and recovery may continue.

A: Incorrect. Urgent Failure alarm normally locks up all movement, but Urgent failure alarm is expected with these conditions. Rods are being demanded to move but cannot with lift coil disconnect switches disabling them.

B: Incorrect. See A. Logical to reset alarm at affected cabinets

C: Incorrect. The alarm is expected, however action to reset is not required to continue with recovery actions.

D: Correct. Urgent failure occurs when opposite group does not respond to command.

Ability to verify that the alarms are consistent with the plant conditions.

Question Number: 74

Tier 3 Group 4

Importance Rating: 3.5

Technical Reference: SY 1300100, ALR-00-79A
Proposed references to be provided to applicants during examination: None
Learning Objective: R13
10 CFR Part 55 Content: 41.10/41.7

Comments:

Source:	BANK	Source If Bank:	SEQUOYAH BANK
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

75. G2.4.5 002/NEW//HIGHER//RO/WOLF CREEK/10/2007/NO

Given the following:

- The unit was at 100% power.
- A complete loss of 'A' Train CCW occurred.
- The crew enters OFN EG-004, CCW System Malfunctions.
- The operators attempt to manually trip the reactor but the trip breakers fail to open.

Which ONE (1) of the following statements correctly describes the proper procedural flow path for these conditions?

A. Go directly to EMG FR-S1, Nuclear Power Generation/ATWS, and perform concurrently with OFN EG-004.

B. Enter EMG E-0 and immediately transition to EMG FR-S1; continuing in OFN EG-004 only after exit from the EMG network.

C. Terminate OFN EG-004, enter EMG E-0, Reactor Trip or Safety Injection, and immediately transition to EMG FR-S1.

D.✓ Enter EMG E-0 and immediately transition to EMG FR-S1 while continuing on in OFN EG-004 as time and conditions permit.

D is correct.
A is incorrect because it is not a direct entry procedure from OFN EG-004, but it is feasible due to it being a commonly used procedure.
B is incorrect because OFN EG-004 steps can be done concurrently with other procedure.
C is incorrect because you would not terminate OFN EG-004, just suspend it.

Knowledge of the organization of the operating procedures network for normal, abnormal, and emergency evolutions.

Question Number: 75

Tier 3 Group 4

Importance Rating: 2.9

Technical Reference: AP 15C-003

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1733293 R12

10 CFR Part 55 Content: 41.10

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	RO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

QUESTIONS REPORT

for 2007 WOLF CREEK NRC WORKSHEET REV FINAL

1. 003 G2.4.6 001/NEW//HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- A reactor trip has occurred.
- Safety Injection is actuated.
- All ECCS equipment is running.
- RCS pressure is 1200 psig.
- RCS temperature is 534 degrees F and lowering slowly.
- Containment pressure is 7 psig and rising slowly.
- SG pressures are 1000 psig and lowering slowly.
- The crew is preparing to transition from EMG E-0, Reactor Trip or Safety Injection.

Which ONE (1) of the following describes the procedure required, and the operation of RCPs for this event?

A. Enter EMG E-1, Loss of Reactor or Secondary Coolant; RCPs tripped to prevent equipment damage.

B.✓ Enter EMG E-1, Loss of Reactor or Secondary Coolant; RCPs tripped to limit RCS inventory loss.

C. Enter EMG E-2, Faulted Steam Generator Isolation; RCPs tripped to prevent equipment damage.

D. Enter EMG E-2, Faulted Steam Generator Isolation; RCPs tripped to limit RCS inventory loss.

B is correct. E-1 because RCS is leading the cooldown. Trip RCPs because of loss of subcooling, would trip due to mechanical damage if Containment Spray and phase B were actuated

C and D are incorrect but plausible because a cooldown and depressurization of SGs is occurring. A is incorrect but plausible because this would be correct if containment pressure exceeded the High-3 setpoint

Emergency Procedures / Plan Knowledge symptom based EOP mitigation strategies.

Question Number: 86

Tier 2 Group 1

Importance Rating: 4.0

Technical Reference: EMG E-0, steps 13-18

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732313 R4

10 CFR Part 55 Content: 43.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

2. 005 A2.03 001/NEW//HIGHER//SRO/WOLF CREEK/10/2007/NO

Initial conditions:

- The plant is in Mode 6.
- The Refueling Cavity is being flooded.
- Level is approximately 12 feet above the reactor vessel flange.
- RHR Train "A" is in operation.
- RCS temperature is currently 128 degrees F.

Current conditions:

- The following alarms are received:
  - ALR-00-049C, RHR LOOP 1 FLOW LO
  - ALR-00-050A, RHR PUMP TROUBLE
- RHR Pump "A" is tripped.
- RCS temperature is 129 degrees F and rising at 1 degree F every 3 minutes.

Which ONE (1) of the following describes the procedure use for this condition, and the strategy for recovery?

A. Alarm Response Procedures and SYS EJ-120; Startup of RHR; Align Train B and initiate RCS makeup.

B. Alarm Response Procedures and SYS EJ-120; Startup of RHR; Attempt to start either RHR Pump, initiate Containment closure if no pump can be started.

C. OFN EJ-015, Loss of RHR Cooling; Verify RHR Pumps not cavitating and reduce Letdown flow.

D✓ OFN EJ-015, Loss of RHR Cooling; Attempt to start either RHR Pump, initiate Containment closure if no pump can be started.

D is correct.
A and C are incorrect, as RCS makeup would be required only if reduced inventory operations were in progress.
B is incorrect but credible because the alarm response does contain action to restore RHR, the SOP is not used. The AOP is referred to

QUESTIONS REPORT

for 2007 WOLF CREEK NRC WORKSHEET REV FINAL

Ability to (a) predict the impacts of the following malfunctions or operations on the RHRS, and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: RHR pump/motor malfunction

Question Number: 87

Tier 2 Group 1

Importance Rating: 3.1

Technical Reference: OFN EJ-015, ALR-050A, 049C

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732425 R3

10 CFR Part 55 Content: 43.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

3. 006 G2.1.33 003/BANK/WTSI/HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

The plant is in Mode 1.

1200	RHR Pump "A" declared INOPERABLE due to a failed surveillance.
1227	RHR Pump "B" also declared INOPERABLE due to the results of a common cause failure analysis.
1254	Plant Shutdown to Mode 3 commenced.
1321	RHR Pump "A" returned to OPERABLE status.
1338	RHR Pump "B" returned to OPERABLE status.

Which ONE (1) of the following describes the Technical Specification requirements for operation of the plant?

Plant conditions...

A.✔ allowed the plant shutdown to be terminated at 1321.

B. allowed the plant shutdown to be terminated at 1327.

C. require that the Shutdown to Mode 3 is completed by 1827.

D. require that the Shutdown to Mode 3 is completed by 1927.

A is correct as 3.0.3 is exited at 1321. When the LCO action is no longer 3.0.3, actions may be terminated
B is plausible because the applicant could base 3.0.3 exit time from the entry time
C and D are plausible because the candidate may not apply the rules correctly for 3.0.3 exit criteria
Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.

Question Number: 90

Tier 2 Group 1
Importance Rating: 4.0

Technical Reference: TS 3.5.2, 3.0.3
Proposed references to be provided to applicants during examination: None
Learning Objective: SY 1300600 R13
10 CFR Part 55 Content: 43.2

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

4. 007 EA2.06 002/BANK/SQN/HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- A manual reactor trip was attempted.
- The following conditions exist:
    - Reactor Trip Breaker 'A' Red indication exists.
    - Reactor Trip Breaker 'B' Green indication exists.
    - Reactor Power is 4% and lowering.
    - Rod bottom lights are lit with the exception of FOUR control bank D rods.
    - Their positions are as follows:
        - H-8 - 16 steps
        - K-2 - 220 steps
        - M-12 - 8 steps
        - M-8 - 20 steps

Which ONE (1) of the following describes the condition of the reactor, and the action that will be required?

A. The reactor is tripped; perform normal RCS boration for the stuck rods as directed in EMG ES-02, Reactor Trip Response.

B.✔ The reactor is tripped; initiate emergency boration for the stuck rods in accordance with OFN BG-009, Emergency Boration, as directed in EMG ES-02, Reactor Trip Response.

C. The reactor is not tripped; manually insert control rods as directed in EMG FR-S1, Response to Nuclear Power Generation/ATWS.

D. The reactor is not tripped; initiate emergency boration for the stuck rods in accordance with OFN BG-009, Emergency Boration, as directed in EMG FR-S1, Response to Nuclear Power Generation/ATWS.

A. Incorrect. Boration will be through OFN procedure, not normal boration
B. Correct. Power <5% and 1 RTB open means the reactor is tripped. ES-02 will direct emergency boration
C. Incorrect. Indication is that rx is tripped. If it was not, this would be correct.
D. Incorrect. Indication is that rx is tripped. If not, these actions would occur, but rods would also be inserted

Ability to determine or interpret the following as they apply to a reactor trip: Occurrence of a reactor trip

Question Number: 76

Tier 1 Group 1

Importance Rating: 4.5.

Technical Reference: EMG E-0, FR-S1, E-0 BD

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732313 R2

10 CFR Part 55 Content: 41.10

Comments:

Source:	BANK	Source If Bank:	SQN
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

5. 008 A2.07 001/NEW//HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is operating at 100% power.
- The following alarms are received:
  - ALR 00-070C, RCP A THRM BAR CCW FLOW
  - ALR 00-074C, RCP THRM BAR CCW FLOW
- CCW return flow from RCP thermal barriers indicates 0 GPM. The B CCW Pump is in service.

Which ONE (1) of the following describes the cause and impact of the event and the procedure selection required?

A. CCW Pump A tripped and CCW Pump C automatically started, causing a spike on RCP thermal barrier CCW flow; OFN EG-004, CCW System Malfunctions to swap Service Loop.

B. CCW Pump A tripped and CCW Pump C automatically started, causing a spike on RCP thermal barrier CCW flow; OFN BB-005, RCP Malfunctions to restore CCW to thermal barriers.

C.✔ RCP A Thermal Barrier Heat Exchanger leak caused high flow and automatic thermal barrier isolation; OFN EG-004, CCW System Malfunctions to verify CCW surge tank level is stable.

D. RCP A Thermal Barrier Heat Exchanger leak caused high flow and automatic thermal barrier isolation; OFN BB-005, RCP Malfunctions to trip the affected RCP.

C is correct.
A and B are incorrect because if CCW A tripped, ALR 00-051B would be locked in.
D is incorrect because ALR 00-074C directs the crew to OFN EG-004.

Ability to (a) predict the impacts of the following malfunctions or operations on the CCWS, and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Consequences of high or low CCW flow rate and temperature; the flow rate at which the CCW standby pump will start

Question Number: 88

Tier 2 Group 1

Importance Rating: 2.8

Technical Reference: OFN EG-004, ALR 051B, 70C, 074C

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732414 R2

10 CFR Part 55 Content: 43.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

6. 026 G2.1.33 003/NEW//HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is operating at 100 percent power
- B CCW Pump is tagged out and unavailable for approximately 7 days.
- At 0900 on 09/18/07, the A EDG Fuel Oil Transfer pump was placed under clearance to repair a fuel oil leak.
- At 1100 on the same day, a fault in the control power circuit for the "D" CCW Pump causes the control power fuses to blow.

Assuming no further changes to equipment operability, which ONE (1) of the following is the time the unit must enter Mode 3 (refer to attached Technical Specifications)?

A. 1800 on 09/18/07

B.✔ 2200 on 09/18/07

C. 1100 on 09/21/07

D. 1700 on 09/21/07

B is correct.
A is incorrect. 3.0.3 entry required 4 hours from 1100 to declare Train A and B CCW inoperable. Then 1 hour to commence shutdown within 7 hours.
C and D are incorrect but are credible for the equipment OOS if the entry to 3.0.3 is not recognized
Conduct of Operations: Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications

Question Number: 77

Tier 2 Group 1
K/A Importance Rating - SRO 4.0
Reference(s) - TS 3.8.1 and 3.7.7, TS section 3.0
Proposed References to be provided to applicants during examination - **(Provide T.S. 3.8.1 and TS 3.7.7)**
Learning Objective - LO 1733214 R3
10 CFR Part 55 Content - 43.2
Comments -

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

7. 029 G2.4.31 001/NEW//HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is at 100% power.
- SSPS testing is in progress on Train "A".
- The following alarm is received:
  - ALR 00-75A, SSPS Train A General Warning
- The RO acknowledges the alarm as expected.
- The alarm is currently locked in.
- Subsequently, the following alarm is received:
  - ALR 00-76A, SSPS Train B General Warning
- The RO acknowledges the alarm.
- NO other alarms are present.

Which ONE (1) of the following describes the status of the alarm, and the action required?

A. The alarm is expected due to the cross-train logic testing for Reactor Trip and Bypass breakers. Refer to the alarm response to ensure no unexpected conditions exist.

B. The alarm is expected due to the cross-train logic testing for Reactor Trip and Bypass breakers. Refer to technical specifications for action required related to the testing.

C. The alarm is unexpected for SSPS testing. Suspend the testing and return Train A to OPERABLE due to two SSPS trains inoperable.

D✓ The alarm is unexpected for SSPS testing. Reactor Trip should have occurred. Direct a reactor trip and performance of EMG E-0, Reactor Trip or Safety Injection.

D is correct. Both Train alarms in, reactor should trip, due to general warnings on both trains.
A, B, and C are incorrect because they do not refer to a trip. They are credible because they contain plant response that is seen during different phases of SSPS testing.

Emergency Procedures / Plan Knowledge of annunciators alarms and indications, and use of the response instructions.

Question Number: 78

Tier 1 Group 1

Importance Rating: 3.4

Technical Reference: ALR 00-075A, 76A

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1301200 R3

10 CFR Part 55 Content: 43.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

8. 040 G2.2.25 007/NEW//LOWER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is in Mode 1 at 7% power.
- A Main Steam Line leak is occurring.
- The location has not been identified.
- RCS Temperature has gone below the Technical Specification Minimum Temperature for Criticality.

If the conditions CANNOT be corrected, which ONE (1) of the following describes the MAXIMUM time allowed prior to placing the plant in Mode 2 with Keff <1 and the basis for the action in accordance with Technical Specifications?

A.✓ 30 minutes; Moderator Temperature Coefficient may be outside the range assumed in the safety analysis.

B. 30 minutes; plant transients could unnecessarily challenge vessel integrity.

C. 1 hour; Moderator Temperature Coefficient may be outside the range assumed in the safety analysis.

D. 1 hour; plant transients could unnecessarily challenge vessel integrity.

A. Correct. 30 minutes to achieve Mode 2 with Keff <1. Rapid shutdown will achieve

B. Incorrect. Reason is incorrect. Vessel Integrity is affected by lowering RCS temperature, but the assumptions made are not invalidated by temperature going below 551 degrees.

C. Incorrect. 60 minutes is a typical number used in TS, and the applicant may confuse the 30 total minutes to be in Mode 3 with 30 minutes to restore, followed by 30 minutes to Mode 3.

D. Incorrect. Vessel Integrity is affected by lowering RCS temperature, but the assumptions made are not invalidated by temperature going below 551 degrees. 60 minutes is a typical number used in TS, and the applicant may confuse the 30 total minutes to be in Mode 3 with 30 minutes to restore, followed by 30 minutes to Mode 3.

Equipment Control Knowledge of bases in technical specifications for limiting conditions for operations and safety limits.

Question Number: 79

Tier 1 Group 1

Importance Rating: 3.7

Technical Reference: TS 3.4.2

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1733214 R3

10 CFR Part 55 Content: 43.2

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	LOWER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

9. 045 G2.4.31 001/NEW//HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is at 30% power.
- The following alarm is received:
  - ALR 00-131A, GEN TROUBLE
- The crew determines that Loss of Field Relay 340/G is energized.

Which ONE (1) of the following describes the response of the plant and the procedure use required?

A.✓ A Generator Lockout has occurred; go to OFN MA-001, Load Rejection or Turbine Trip.

B. A Generator Lockout has occurred; go to EMG E-0, Reactor Trip or safety Injection.

C. The Generator Voltage Regulator has tripped to MANUAL; refer to the appropriate alarm response procedures as directed by ALR-131A to verify operation in MANUAL.

D. The Generator Voltage Regulator has tripped to MANUAL; Refer to the System Operating procedure for requirements related to manual operation of the voltage regulator.

The VR trips to manual when the voltage balance relay is energized. The GEN/TURB is tripped, so C and D are incorrect.
B is incorrect because reactor power is less than P-9
A is correct.

Emergency Procedures / Plan Knowledge of annunciators alarms and indications, and use of the response instructions.

Question Number: 91

Tier 2 Group 2

Importance Rating: 3.4

Technical Reference: ALR 00-131A

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732411 R2

10 CFR Part 55 Content: 43.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

10. 058 G2.1.12 001/BANK/WTSI/LOWER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is in Mode 6, Core Alterations in progress.
- DC Bus NK02 is out of service
- Maintenance reports that Battery NK01 electrolyte is overflowing in several cells.

Which ONE (1) of the following is the maximum time allowed before TS action is required, and why?

A. 1 Hour; a subsequent worst case single active failure would result in loss of all DC subsystems with attendant loss of ESF functions.

B. Immediate action required; a subsequent worst case single active failure would result in loss of all DC subsystems with attendant loss of ESF functions.

C. 1 Hour; sufficient control and instrumentation capability is no longer available to monitor and maintain the unit status

D.✓ Immediate action required; sufficient control and instrumentation capability is no longer available to monitor and maintain the unit status

A incorrect. In Mode 6, immediate action is required to suspend Core Alterations

B incorrect. All DC is not lost, even with subsequent single failure. This is wording for the Mode 1 tech spec basis. Minimum DC is no longer available

C incorrect. 1 Hour is not allowed in Mode 6.

D Correct.

Conduct of Operations: Ability to apply technical specifications for a system

Question Number: 80

Tier 1 Group 1

Importance Rating: 4.0

Technical Reference: TS Basis 3.8.2.3

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732430 R3

10 CFR Part 55 Content: 41.10

Comments:

WTSI generic bank

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	LOWER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

11. 059 G2.4.30 002/MODIFIED//HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

Time	Condition
0803	'A' Main Feed Pump tripped
0804	Crew initiates power reduction
0808	'B' Main Feed Pump tripped. Crew trips the reactor
0811	EMG FR-H1, Response to Loss of Secondary Heat Sink, is entered
0812	ALERT is declared
0829	SITE AREA EMERGENCY is declared

Which ONE (1) of the following is the LATEST time that the state and local authorities must be first notified of the event in progress?

A.✓ 0827

B. 0843

C. 0912

D. 0929

A. Correct. 15 minutes from start of first classifiable event
B. Incorrect. 15 minutes from last classification
C. Incorrect. 15 minutes maximum following declaration for notification of state and local authorities, this is 1 hour from classification
D. Incorrect. 15 minutes from SAE. Should have already notified of alert

Emergency Procedures / Plan Knowledge of which events related to system operations/status should be reported to outside agencies.

Question Number: 89

Tier 2 Group 1

Importance Rating: 3.6

Technical Reference: 10CFR50.72, EPP 06-007

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1734021 R3

10 CFR Part 55 Content: 43.5

Comments:

Source:	MODIFIED	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

12. 062 AA2.03 001/NEW//HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- The plant is at 30% power.
- The normal feeder to NB01 trips open.
- There is NO lockout on NB01.
- NEITHER ESW Pump is running.
- All other systems are operating as required for the plant condition.
- The crew enters OFN EF-033, Loss of Essential Service Water.
- Train "B" ESW Pump is manually started.
- Train "A" ESW Pump is deenergized with amber light on the breaker lit.

Which ONE (1) of the following describes the condition of the plant and the procedural guidance that will be followed?

A. BOTH ESW pumps should have started automatically; restore Train "A" ESW using Attachment A, Tranferring ESW Supply to Service Water.

B. BOTH ESW pumps should have started automatically; restore Train “A” ESW using OFN NB-030, Loss of AC Emergency Bus.

C✓ ONLY "A" ESW Pump should have started automatically; restore Train "A" ESW using Attachment A, Tranferring ESW Supply to Service Water.

D. Only “A” ESW Pump should have started automatically; restore Train “A” ESW using OFN NB-030, Loss of AC Emergency Bus.

C is correct.
A and B are incorrect but credible because they do not auto start, but A train ESW does auto start.
D is incorrect. Correct response and action but dictated by the wrong procedure

Ability to determine and interpret the following as they apply to the Loss of Nuclear Service Water: The valve lineups necessary to restart the CCWS while bypassing the portion of the system causing the abnormal condition

Question Number: 81

Tier 1 Group 1

Importance Rating: 2.9

Technical Reference: OFN EF-033

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732443 R3

10 CFR Part 55 Content: 43.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

13. 068 A2.04 001/BANK/FARLEY/HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- A radioactive liquid release is in progress from Waste Monitor Tank "B".
- Process Rad Monitor HI and HI-HI have just alarmed.
- HB RE-18, Liquid Waste Process Discharge Monitor, is pegged high on the Radiation Monitoring system console and the High Alarm light is illuminated.
- HB RV-18, Liquid Radwaste Discharge Valve, did not close.

Which ONE (1) of the following describes the actions required in OFN SP-010, Accidental Radioactive Release, and can the release resume after sampling the contents of the affected tank?

The operator will immediately close HB RV-18 and...

A. stop the "B" Waste Monitor Tank Transfer Pump. No releases allowed.

B.✓ stop the "B" Waste Monitor Tank Transfer Pump. Releases are allowed.

C. transfer "B" Waste Monitor Tank contents to "A" Waste Holdup Tank. No releases are allowed.

D. transfer "B" Waste Monitor Tank contents to "A" Waste Monitor Tank. Releases are allowed.

A is incorrect because the ODCM allows releases if the tanks are sampled IAW specifications..
C and D are incorrect as the OFN requires the pump to be stopped. There is no provision for transferring contents to another tank if there is failure of the discharge valve. There are other plant conditions that will allow or require transfer of tank contents
B is correct as the pump is stopped to secure the release immediately and subsequent releases are allowed with the HB RE-18 inoperable if sampling meets specified limits

Ability to (a) predict the impacts of the following malfunctions or operations on the Liquid Radwaste System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Failure of automatic isolation

Question Number: 92

Tier 2 Group 2

Importance Rating: 3.3

Technical Reference: ODCM, OFN SP-010, AP 07B-003

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732420 R3

10 CFR Part 55 Content: 43.4

Comments:

Source:	BANK	Source If Bank:	FARLEY
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

14. 071 A2.05 001/NEW//HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- A Containment Mini-Purge is in progress.
- The following alarm is received:
    - ALR 00-061C, Process Rad Mon Fail
- The crew determines that plant Unit Vent Channels GT RE-23 and GT RE-33 both have equipment failure indications, and are inoperable.
- A loss of power to the radiation monitors is determined to be the cause.
- NPIS Computer point GDT0002 "CTMT MINIPURGE SUPPLY FAN" indicates STOPD.
- ALR 00-059C - CPIS is NOT lit.

Which ONE (1) of the following describes the effect on the Containment Mini-Purge System, and the actions required?

A. The Containment Mini-Purge must be stopped. The Mini-Purge may continue when a portable radiation monitor with continuous monitoring capability is placed in the sample flowpath.

B.✔ The Containment Mini-Purge must be stopped. ODCM requirements for reinitiation of the release must be met prior to continuing the Containment Mini-Purge.

C. The Containment Mini-Purge is isolated. The Containment Mini-Purge may continue when a portable radiation monitor with continuous monitoring capability is placed in the sample flowpath.

D. The Containment Mini-Purge is isolated. ODCM requirements for reinitiation of the release must be met prior to continuing the Containment Mini-Purge.

B is correct.

A is incorrect but credible because some applications of the regulations allow portable radiation monitors.

C is incorrect because requirements do not allow for a portable monitor via this effluent flow path. It is credible because some applications of the regulations allow portable radiation monitors. A release path exists until the dampers are closed, so the Mini-Purge is NOT considered isolated.

D is incorrect but credible as there is indication that the fan has stopped. A release path exists however until the dampers are closed, so the Mini-Purge is NOT considered isolated.

Ability to (a) predict the impacts of the following malfunctions or operations on the Waste Gas Disposal System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Power failure to the ARM and PRM Systems

Question Number: 93

Tier 2 Group 2

Importance Rating: 2.6

Technical Reference: ALR-00-061C, AP 07B-003

Proposed references to be provided to applicants during examination: NONE

Learning Objective: 1733209 R6,R7

10 CFR Part 55 Content: 43.4

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

15. E03 G2.1.33 004/BANK/WTSI/HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- The reactor has tripped. Safety Injection is actuated.
- An RCS cooldown is in progress in accordance with EMG ES-11, Post LOCA Cooldown and Depressurization.
- The following table is a plot of the cooldown:

TIME	RCS TCOLD	TIME	RCS TCOLD
0800	547°F	0945	425°F
0815	530°F	1000	395°F
0830	520°F	1015	382°F
0845	505°F	1030	364°F
0900	498°F	1045	340°F
0915	478°F	1100	310°F
0930	447°F	1115	280°F

At which time was the Tech Spec RCS Cooldown rate limit FIRST exceeded, and what are the implications of exceeding the cooldown rate in accordance with technical specifications?

A. 1000; Inability to maintain SG inventory may ultimately result in the RCS Pressure Safety Limit being exceeded.

B. 1115; Inability to maintain SG inventory may ultimately result in the RCS Pressure Safety Limit being exceeded.

C✓ 1000; RCS cooldown rates in excess of technical specification limits may potentially result in non-ductile failure of the reactor vessel.

D. 1115; RCS cooldown rates in excess of technical specification limits may potentially result in non-ductile failure of the reactor vessel.

A. Incorrect. Correct time but incorrect reason.
B. Incorrect. Incorrect time and reason.
C. Correct. This is 103 degrees in one hour.
D. Incorrect. Credible because limits were exceeded at 1115, but limits were FIRST exceeded at 1000 because c/d rate was 103 deg F for that hour

Conduct of Operations: Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.

Question Number: 82

Tier 1 Group 2

Importance Rating: 4.0

Technical Reference: TS 3.4.3 and PTLR 2.0

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732700 R7

10 CFR Part 55 Content: 43.2

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

16. E06 EA2.2 004/NEW//HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- A LOCA has occurred.
- Safety systems have NOT functioned as designed.
- RCPs are tripped.
- RVLIS is 40% Natural Circulation Wide Range.
- Core Exit Temperatures are 695 degrees F.
- Containment Pressure peaked at 7 psig.
- #1 seal DP is 75 psid on all RCPs.

Which ONE (1) of the following Critical Safety Function Status Trees apply and what is the FIRST set of actions that will be taken?

A. Inventory, yellow. Attempt to start an RCP.

B. Inadequate Core Cooling, orange. Attempt to start an RCP.

C. Inventory, yellow. Verify or establish Si equipment alignment.

D✓ Inadequate Core Cooling, orange. Verify or establish SI equipment alignments.

A: Incorrect. Wrong procedure, wrong action.

B: Incorrect. Correct procedure, wrong action.

C: Incorrect. Wrong procedure, correct action.

D: Correct. Options credible because indications for Inventory yellow path exist.

Ability to determine and interpret the following as they apply to the (Degraded Core Cooling) Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.

Question Number: 83

Tier 1 Group 2

Importance Rating: 4.1

Technical Reference: Core Cooling CSF Status Tree, EMG F-0

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732341 R7

10 CFR Part 55 Content: 43.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

17. E08 G2.4.4 001/NEW//HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- A reactor trip has occurred.
- Safety Injection is actuated.
- The crew is performing actions of EMG C-21, Uncontrolled Depressurization of All Steam Generators.

Current conditions:

- RCS cold leg temperatures have decreased to 230 degrees F.
- RCS pressure is 1450 psig.
- The crew has completed SI reset actions in EMG C-21.
- Pressure in "C" SG is rising slowly.

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

A. Remain in EMG C-21; complete SI termination actions prior to transition to any other procedure.

B. Return to EMG E-2, Faulted SG Isolation based on pressure increase in "C" SG.

C. Go to EMG FR-P1 based on a yellow condition of the Integrity CSF Status Tree.

D.✔ Go to EMG FR-P1 based on an orange condition on the Integrity CSF Status Tree.

D is correct. SI termination should be completed prior to return to E-2, but CSF Red or Orange must be performed
A is incorrect but credible because the stem states SI has been reset but termination is not complete. Orange overrides C-21 as well
B is incorrect as the orange path on integrity must be performed
C is incorrect as the conditions place you in orange, not yellow path for FR-P1

Emergency Procedures / Plan Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.

Question Number: 84

Tier 1 Group 2

Importance Rating: 4.3

Technical Reference: EMG F-0, CSF Status Trees and Figures

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732334 R2

10 CFR Part 55 Content: 43.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

18. E13 EA2.2 002/NEW//HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- A reactor trip has occurred.
- The crew is preparing to transition from EMG E-0 after checking SI is NOT actuated OR required.

    - All SG levels are 0-5% NR
    - AFW flow indicates 300,000 LBM/Hr
    - "A", "B", and "C" SG pressures indicate 1050 psig
    - "D" S/G pressure indicates 1240 psig

Which ONE (1) of the following describes the highest priority procedure related to the Heat Sink CSF that would be implemented based on the above conditions?

A. EMG FR-H1, Response to Loss of Secondary Heat Sink

B.✓ EMG FR-H2, Response to Steam Generator Overpressure

C. EMG FR-H4, Response to Normal Steam Release Capability

D. EMG FR-H5, Response to Steam Generator Low Level

B is correct. FR-H2 is correct.
A is incorrect because there is no red path with minimum AFW flow available, but credible based on SG level
C and D are incorrect but credible because conditions are met, but they are subsequent yellow paths that have lower priority

Ability to determine and interpret the following as they apply to the (Steam Generator Overpressure) Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.

Question Number: 85

Tier 1 Group 2

Importance Rating: 3.4

Technical Reference: Heat Sink CSF Status Tree, EMG F-0

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732344 R2

10 CFR Part 55 Content: 43.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

19. G2.1.20 001/BANK/CPSES/HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- A Reactor Trip and Safety Injection actuation have occurred.
- The crew is performing actions contained in EMG E-0, Reactor Trip or Safety Injection.
- RCS pressure is 1800 psig and increasing.
- SG pressures are 1000 psig and stable.
- SG levels are being controlled by AFW, with WR SG levels at 26%.
- Containment pressure is 0.8 psig and stable.
- PRT pressure is 24 psig and stable.
- PRT temperature is 200ºF and stable.
- PRT level is 71%.

Which ONE (1) of the following describes the action and procedure use required for these conditions?

A.✔ Determine cause of PRT conditions and continue in EMG E-0 until transition to ES-03, SI Termination.

B. Transition to EMG E-1, Loss of Reactor or Secondary Coolant, due to RCS pressure abnormally low with PRT conditions abnormal.

C. Transition to EMG C-12, LOCA Outside Containment, due to RCS pressure abnormally low with Containment parameters normal.

D. Transition to EMG ES-11, Post LOCA Cooldown and Depressurization, to restore Charging and Letdown and secure ECCS pumps.

A is correct. EMG E-0 will direct transition to ES-03 if Ctmt or Aux Bldg parameters are normal
B is incorrect but credible because it can be entered from E-0 at step 18
C is incorrect but credible but transition to ES-03 takes place earlier
D is incorrect but credible because it accomplishes the necessary actions, but is not entered directly from E-0

Ability to execute procedure steps.

Question Number: 95

Tier 3 Group 1

Importance Rating: 4.2

Technical Reference: EMG E-0

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732313 R4

10 CFR Part 55 Content: 43.5

Comments:

Source:	BANK	Source If Bank:	CPSES
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

20. G2.1.6 002/BANK/WTSI/LOWER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- You are the Control Room Supervisor.
- An explosion occurs resulting in significant damage in the unit.
- The Shift Manager was seriously injured in the explosion and is incapacitated.
- Damage has resulted in a condition which the unit cannot comply with technical specifications due to the nature of the damage.
- Immediate action is required for mitigation.

Which ONE (1) of the following describes the requirement for performing this action?

A.✔ You may approve this action in accordance with 10CFR50.54(x) and (y).

B. You must obtain concurrence from one other SRO prior to performing the action.

C. The NRC must be notified prior to the action and should concur with the action to be taken.

D. The Plant Manager must be notified and should concur prior to taking the action.

A Correct.
B incorrect. AP 26C-004 requires only 1 SRO approval
C incorrect. NRC concurrence is not required for the action; they must be notified as soon as possible but no later than 1 hour.
D incorrect. Plant Manager concurrence or approval is not required
Ability to supervise and assume a management role during plant transients and upset conditions.

Question Number: 94

Tier 3 Group 1

Importance Rating: 4.3

Technical Reference: 10CFR50.54 (x) and (y), AP 26C-004

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1733214 R3

10 CFR Part 55 Content: 43.5

Comments:

WTSI Bank SONGS 2005

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	LOWER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

21. G2.2.29 001/BANK/WTSI/LOWER//SRO/WOLF CREEK/10/2007/NO

Plant is performing core re-load in MODE 6.

Which ONE (1) of the following is responsible for safe movement of fuel and the safe operation of equipment for fuel handling and refueling

A.✔ Refueling SRO

B. Reactivity Monitor

C. Any Licensed Operator

D. Reactor Engineer

C is correct, actual Flux at the core periphery would be lower than expected so NI's will read low.
A is incorrect but credible since it is the opposite of the correct answer.
B&D are incorrect because loop delta T will not change, but credible because power distribution does change, which would make it reasonably logical to believe that temperatures would also change.

Knowledge of SRO fuel handling responsibilities.

Question Number: 97

Tier 3 Group 2

Importance Rating: 3.8

Technical Reference:

Proposed references to be provided to applicants during examination: NONE

Learning Objective: R12

10 CFR Part 55 Content: 43.5

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	LOWER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

22. G2.2.33 001/MODIFIED/WOLF CREEK/HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- A reactor startup is in progress.
- Control Rod "Full Out" position is 228 steps
- Control Rods are being withdrawn in MANUAL.

When Control Bank "A" is at its "Full Out' position, what will be the position of Control Bank "B", and the technical specification basis for the amount of overlap?

A.✓ 113 steps; ensures acceptable power distribution and maintains peaking factors within design limits.

B. 113 steps; ensures adequate Shutdown Margin and DNBR maintained within limits for all analyzed events.

C. 115 steps; ensures acceptable power distribution and maintains peaking factors within design limits.

D. 115 steps; ensures adequate Shutdown Margin and DNBR maintained within limits for all analyzed events.

A is correct because with 113 step overlap, Bank B will start to withdraw at 115 steps on Bank A. Full rod motion would be 228 steps. Basis is correct
B is incorrect, but plausible because control rod position does ensure Shutdown Margin, but DNBR is not a basis for control rod position.
C is incorrect but plausible because 115 steps is a plausible misconception, and the basis is correct
D is incorrect, but plausible because 115 steps is a plausible misconception and half of the basis is incorrect.

Knowledge of control rod programming.

Question Number: 96

Tier 3 Group 2

Importance Rating: 2.9

Technical Reference: SY 1300100, Figure 3; TS Basis Section 3.1

Proposed references to be provided to applicants during examination: NONE

Learning Objective: SY 1300100 R2

10 CFR Part 55 Content: 41.5/43.2

Comments:

Previous WCNOC NRC Exam, Modified for SRO. WTSI 56061

Source:	MODIFIED	Source If Bank:	WOLF CREEK
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

23. G2.3.10 003/BANK/WTSI/LOWER//SRO/WOLF CREEK/10/2007/NO

Given the following plant conditions:

- A rapid load reduction from 100% power to 60% power was performed approximately 3 hours ago.
- The Letdown Line Radiation Monitor, SJ RE-01, is in alarm.
- Chemistry confirms that RCS I-131 activity exceeds Technical Specification limit of acceptable operation.
- The CRS directs a plant shutdown to be performed.

Which ONE (1) of the following post shutdown actions is subsequently performed to limit the release of activity?

A. MSIVs are closed

B.✔ RCS temperature is reduced below 500°F

C. S/G PORV setpoints are raised

D. Letdown is isolated

A is incorrect because closing MSIVs does not prevent rad release from SG ARVs
B is correct. Reduce temp IAW TS
C is incorrect. Would not stop a release from SG SV
D is incorrect. Letdown would be increased through the demins, not isolated
Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure.

Question Number: 98

Tier 3 Group 3

Importance Rating: 3.3

Technical Reference: OFN BB-006

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732416 R3:

10 CFR Part 55 Content: 43.2/4/5

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	LOWER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO

24. G2.4.6 006/BANK/WTSI/HIGHER//SRO/WOLF CREEK/10/2007/YES

Given the following:

- The plant is operating at 100% power.
- EDG B is out of service and is expected to return to service in two (2) hours.
- Subsequently, the following events occur:
- A loss of offsite power occurs.
- The reactor is tripped and the crew enters EMG E-0, Reactor Trip or Safety Injection
- SI is NOT actuated.
- The crew made a transition to FR-C2, Response to Degraded Core Cooling based on a CSFST ORANGE Path.

Subsequently, EDG A output breaker trips on a bus fault.

Which ONE (1) of the following describes the actions that will be taken?

A.✓ Immediately transition to EMG C-0, Loss Of All AC Power.

B. Restore feed in accordance with EMG FR-H1, and then return to EMG E-0 to restore EDG A.

C. Remain in EMG FR-H1 until directed to return to procedure in effect, and then transition to EMG C-0.

D. Remain in EMG FR-H1 unless a higher priority RED condition is observed. When directed to return to procedure in effect, return to EMG E-0. Restore EDG A or B in ES-02, Reactor Trip Response.

Correct.
Incorrect. No AC power is available, therefore transition to C-0 is required.
Incorrect. Transition to C-0 immediately, even if a RED condition exists.
Incorrect. This would be correct if only one EDG was tripped.

Knowledge symptom based EOP mitigation strategies.

Question Number: 99

Tier 3 Group 4

Importance Rating: 4.0

Technical Reference: EMG Users Guide

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732341 R8

10 CFR Part 55 Content: 43.5

Comments:

Source:	BANK	Source If Bank:	WTSI
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	YES

25. G2.4.9 002/NEW//HIGHER//SRO/WOLF CREEK/10/2007/NO

Given the following:

- A plant heatup is in progress.
- RCS temperature is 390 degrees F.
- RCS pressure is 1025 psig.
- Accumulators have been unisolated.
- PZR level is 10% and lowering.
- Containment radiation monitor indications are rising.

Which ONE (1) of the following procedures will be directed to mitigate the event in progress?

A. OFN BB-031, SHUTDOWN LOCA

B. OFN EJ-015, LOSS OF RHR COOLING

C.✓ OFN BB-007, RCS LEAKAGE HIGH

D. EMG E-1, LOSS OF REACTOR OR SECONDARY COOLANT

C is correct. With the plant in Mode 3 or 4 and the accumulators unisolated, OFN BB-007 is the correct procedure to use.
B is incorrect but credible because EJ-015 would be correct in Modes 5 or 6.
A is incorrect but credible because BB-031 would be correct in Mode 4 with accumulators isolated.
D is incorrect but credible because E-1 would be correct for LOCA post trip.

Knowledge of low power / shutdown implications in accident (e.g. LOCA or loss of RHR) mitigation strategies.

Question Number: 100

Tier 3 Group 4

Importance Rating: 3.9

Technical Reference: OFN BB-007 Entry, OFN BB-031, OFN EJ-015, EMG E-1

Proposed references to be provided to applicants during examination: NONE

Learning Objective: LO 1732417 R2

10 CFR Part 55 Content: 43.5

Comments:

Source:	NEW	Source If Bank:	
Cognitive Level:	HIGHER	Difficulty:	
Job Position:	SRO	Plant:	WOLF CREEK
Date:	10/2007	Previous NRC?:	NO