

1. 055AK3.02 001

Both Unit 1 and 2 are in mode 3. Procedure 11889-C, "Severe Weather Checklist" was implemented on both units due to anticipated winds from a hurricane exceeding 74 mph.

Which one of the following will minimize the use of diesel generator fuel oil during a loss of offsite power?

- A. Adjust the diesel generator fuel racks for both diesels to a lean fuel mixture, leave both diesel generators running.
- B. Place the standby auxiliary transformer in service aligned to the 1E 4.16KV buses and secure both diesel generators.
- C. Secure one train of ESF equipment and shutdown the associated diesel generator.
- D. Leave both diesel generators running and de-energize NB01 and NB10.

C

Ref: LO-LP-60104

Licensee's exam bank

Answer: C

2. 028AA1.02 001

Given the following conditions:

- Unit 1 is at 100% power, steady state
- Pzr Level Control Channel Selection Switch is in normal position (459/460)
- All other systems are in their normal position
- LT-460, fails low

How is the charging flow effected and why?

- A. The charging flow increases because LT-460 is reading low.
- B. The charging flow remains the same because LT-459 is unaffected.
- C. The charging flow decreases because LT-460 is reading low.
- D. The charging flow increases because LT-459 is unaffected.

C

ref: Lo-LP-16302-12

a. incorrect - speed decreases because LT459 detects level increasing

- b. incorrect - speed decreases because LT459 detects level increasing
- c. correct - speed will decrease
- d. incorrect - speed decreases because LT459 detects level increasing

Answer: C

3. W/E09EA1.01 001

Which one of the following correctly identifies the bases for maintaining RVLIS level greater than 75% while performing ES-0.3, "Natural Circulation Cooldown With Steam Void In Vessel (With RVLIS)?"

- A. Ensures upper head void remains above the top of the hot legs.
- B. Ensures PZR level will remain on scale if the bubble collapses.
- C. Limits the RCS pressure increase in the event an RCP is restarted.
- D. Prevents fuel uncovering due to void collapse in the event of system repressurization.

A

REF: WOG ERG background documents, Student lesson plan text 19B, sect D Reactor Vessel level

- a. - correct, if level is maintained above 75% RVLIS bubble will not migrate into the S/G tubes.
- b. - incorrect - 75% RVLIS is not an indication of PZR inventory.
- c. - incorrect - this might ensure adequate level if RCP start collapsed the bubble but not intended to prevent pressure increase.
- d. - incorrect - level is not maintained at this level to prevent fuel uncovering. Should not reduce vessel level if the void in the head collapsed.

Watts Bar 9801exam

Answer: A

4. 003AK3.04 001

A normal plant shutdown is in progress with the plant in Mode 2. One rod drops in Shutdown Bank A. The correct operator action, in accordance with procedure 18003-C, "Rod Control System Malfunction" is to:

- A. perform a normal reactor shutdown (bank insertion) using procedure 12005-C, "Reactor Shutdown (Mode 2 to Mode 3)."
- B. trip the reactor and go to procedure 19000-C, "EO Reactor Trip or Safety Injection"; return to UOP when directed by "procedure and step in effect".
- C. trip the reactor, verify reactor tripped, and continue in present procedure.

D. verify reactivity change was greater than -40 pcm, trip the reactor and go to 19000-C.

C

Ref. - 18003-C, Rev 19

From Vogtle electronic exam bank

Answer: C

5. 055EK3.02 001

Which of the following is a purpose of depressurizing all intact S/Gs to 300 psig during the performance of procedure 19100-C, "ECA-0.0, Loss of All AC Power?"

- A. Reduces delta P across S/G U-tubes to minimize possibility of tube rupture.
- B. Reduces delta P 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 control rod drive mechanism flow is unavailable.

B

Ref: WOG ERG documents

- 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 circulation and would occur however minimizing inventory loss is a greater concern at this point.
- d. incorrect -

source: Watts Bar 9801 exam

Answer: B

6. 059K1.04 001

The following timeline exists:

- at 1400 selected first stage impulse pressure failed low
- at 1410 a common mode failure occurred on all four main feed regulating valves causing all four valves to close
- at 1411 the reactor operator manually tripped the reactor due to all steam generator levels

decreasing rapidly

- current time is 1414 and steam generator levels are at 34% wide range.

Which of the following AMSAC system indicators is consistent with the conditions listed above for Unit 1?

A. Annunciator ALB05E4, "AMSAC TROUBLE," lit and BPLB window 4-8, "AMSAC Bypass Lo Turbine Load," lit

B. Annunciator ALB13E11, " AMSAC lo feedwater," dark and Annunciator ALB05E4, "AMSAC TROUBLE," lit

C. Annunciator AMSAC cabinet system alarm light, lit and BPLB window 4-8, "AMSAC Bypass Lo Turbine Load," lit

D. BPLB window 4-8, "AMSAC Bypass Lo Turbine Load," lit and Annunciator ALB13E11, " AMSAC lo feedwater," lit

D

Ref: LO-LP-28301-05 rev 5, pg 10-12

North Anna 1999 initial exam, modified to fit Vogtle

Answer: D

7. GEN2.2.12 001

A monthly pressure surveillance requirement was performed incorrectly on a SI pump for three consecutive months due to an incorrect dp cell lineup. The most recent test (month 3 retest) was performed correctly and indicated that the results were less than the allowable specification.

Adjustments to a valve and retesting resulted in satisfactory results.

A. The component was inoperable for the last three months.

B. The component was only inoperable since the time of discovery and satisfactory retesting.

C. The component has always been operable since the pump was capable of performing its intended function.

D. The component was inoperable for the last 45 days only.

A. Results out of specification on proper retest. Must assume previous 3 results were in error.

- B. This would be true if previous test results had been satisfactory.
- C. The pump failed a surveillance test and the LCO was not met.
- D. This is true for risk exposure determination only.

Answer: A

8. 002K6.12 001

An automatic reactor trip and safety injection has occurred on Unit 2 as a result of lowering RCS pressure. The operators note the following initial conditions:

- Pressurizer pressure dropping prior to and following the safety injection
- RCS average temperature stable prior to and following the safety injection
- Pressurizer level rising prior to and following the safety injection
- Reactor power stable prior to the safety injection and dropping following the safety injection

Which of the following accidents would result in these initial conditions?

- A. steamline break
- B. double- ended hot leg break
- C. Stuck open pressurizer safety valve
- D. 4 inch break in an RCS cold leg

C

- a. incorrect - a steam line break would not cause pressurizer level to decrease
- b. incorrect - double- ended hot leg break would cause pressurizer level to decrease
- c. correct
- d. incorrect - 4 inch break in an RCS cold leg would cause pressurizer level to decrease

Answer: C

9. GEN2.4.16 001

A LOCA has occurred, and the control room operators are performing procedure 19010-C, "E-1 Loss of Reactor or Secondary Coolant." An extra operator is assigned to monitor CSFST's. He monitors the first CSFST and finds the CSF is satisfied. He checks the second CSFST, Core Cooling and determines that an orange path exists. He then checks the remaining CSFST's and finds that their CSF's are satisfied. He then announces to the USS that a transition should be made from procedure 19010-C to procedure 19222-C, FR-C.2, Response to Degraded Core Cooling.

From the choices below, select the correct appraisal of the extra operator's performance.

The extra operator

A.should have called for the transition from procedure 19010-C to procedure 19222-C as soon as the challenge to the second CSF was diagnosed.

B.should not have called for a transition, in this instance procedure 19010-C takes precedence over procedure 19222-C.

C.should have consulted with the operators because, in this case, it is at their discretion as to whether to continue in 19010-C or to transition to procedure 19222-C.

D. ...handled the CSFST monitoring correctly and made the appropriate recommendation.

D

Ref: EB #37, LO-LP-37002-08-05

CFR 43.5

Answer: D

10. 004A2.12 001

Given the following:

- Unit 2 is at 100% power
- CCP "A" is in service, providing normal charging flow
- An inadvertent "B" train SI was generated by I&C
- "A" train SI is not present
- No operator action takes place

Which of the following is correct?

A. Normal mini-flow paths for both CCPs is isolated, CCP "A" alternate miniflow path is isolated, CCP "B" alternate mini-flow path is available.

B. CCP "A" normal mini-flow path is available, CCP "A" alternate miniflow path is isolated, CCP "B" alternate mini-flow path is available.

C. Normal mini-flow paths for both CCPs is isolated, alternate mini-flow paths for both CCPs are available.

D. Normal mini-flow path for both CCPs is isolated, alternate mini-flow paths for both CCPs are isolated.

A

ref: EB # LO-LP-09202-01-05 (#94)

Vogtle 9901 exam bank

Answer: A

11. 025AK3.01 001

Given the following:

- Plant in Mode 5
- RCS temperature 175 degrees F
- RCS pressure 325 psig
- Train A RHR in service, Train B RHR tagged out for repairs.

Which of the following is the preferred method of core cooling in the event of a loss of RHR shutdown cooling occurs?

- A. Actuate Safety Injection, spill through the PZR PORVs.
- B. Normal charging to RCS, spill through the PZR PORVs
- C. RCS flow with secondary heat sink established.
- D. Reflux cooling via any S/G with > 10% NR level.

C

ref: AOP 18019-C Loss of Residual Heat Removal

- a. - incorrect - SI pumps are tagged in mode 5
- b. - incorrect - spill through the PZR PORVs not in accordance with procedure and potentially introduces primary coolant to the containment.
- c. - Correct - preferred since does not adversely effect containment.
- d. - incorrect - with RCS at this pressure and temperature this method is not available.

Watts Bar 9801 exam bank

Answer: C

12. GEN2.2.22 001

Unit 2 is critical and four reactor coolant loops are in service.

Which of the following sets of conditions represents a violation of a technical specification safety limit?

- A. Power = 50%, RCS pressure = 1975 psig, Tavg = 605 F
- B. Power = 10%, RCS pressure = 2400 psig, Tavg = 655 F
- C. Power = 90%, RCS pressure = 2000 psig, Tavg = 595 F
- D. Power = 80%, RCS pressure = 2250 psig, Tavg = 640 F

D

NOTE: must attach SL TS 2.1 Figure 2.1.1-1

ref. technical specifications

- a. incorrect - within limits
- b. incorrect - within limits
- c. incorrect - within limits
- d. correct - violates limits

Answer: D

13. 033AK3.02 001

Unit 1 is approaching the power range during a reactor startup. Intermediate range (IR) channel N-35 begins to drift up much faster than IR N-36.

Which of the following describes the actions the operator should take FIRST in accordance with procedure 18002-C, "Nuclear Instrumentation Malfunction"?

A. Select another IR channel on NR-45 to ensure a continuous record of actual IR range level.

B. Suspended all operations involving positive reactivity changes , because if the indications are true, they could be indicating a possible approach to criticality.

C. Verify dilution valves locked closed as directed by Technical specifications. These could be the cause of the rising channel indications.

D. Bypass the N-35 signal, it is failing high and should be bypassed prior to reaching the reactor trip setpoint.

B

- a. incorrect - This will be done but it is not the first action that the procedure requires.
- b. correct - immediate operator action
- c. incorrect - performed later in the procedure, only if the tech spec applies.
- d. incorrect - the channel will be bypassed but not the first action per the procedure.

Answer: B

14. 027AK1.01 001

Given the following:

- Plant is operating at 100% power
- Tavg at 588.2 degrees F and RCS pressure at 2235 psig
- Rod control is in manual
- Average core exit thermocouples indicates 620 degrees F

Which one of the following would cause the core conditions to move further away from saturation?

- A. Loop 2 PZR spray valve fails partially open
- B. EHC circuit failure causes #4 governor valve to fail closed
- C. PZR pressure control failure causes all backup heaters to energize
- D. VCT makeup control failure causes inadvertent dilution of the RCS

C.

REF: GFET08

- a. incorrect - open PZR spray valve will cause a decrease in RCS pressure which moves conditions closer to saturation.
- b. incorrect - when the governor valve closes it causes reduced heat removal from the S/G resulting in increasing RCS temperature which moves conditions closer to saturation.
- c. CORRECT - the backup heaters will raise system pressure moving conditions further from saturation.
- d. incorrect - dilution would cause increasing Tavg moving conditions closer to saturation

Watts Bar 9801 exam bank

Answer: C

15. 013K3.01 001

A malfunction of the ESF sequencers which results in delays in the energizing of ESF components has occurred. Which of the following is correct concerning the effects on the fuel during a large break LOCA?

- A. Cladding failure can occur as the core experiences an uncontrolled cooling due to vaporization of reactor coolant.
- B. Structural integrity can be lost as delayed cooling can lead to fuel temperatures in excess of ECCS acceptance criteria, resulting in excessive clad oxidation and weakening.
- C. Minimal effects will be seen as reflux cooling is sufficient to cool the core for up to ten minutes after the onset of a large break LOCA.
- D. A natural circulation cooldown of the fuel can be adversely impacted due to excessive reactor coolant blowdown.

B

ref:

Vogtle 1999 exam bank

Answer: B

16. 001A3.06 001

Given the following:

- Unit 2 was operating at 100% power
- All controls are in automatic
- An emergency shutdown is in progress at 5% / min using procedure 18013-C, "Rapid Power Reduction," due to high turbine vibration

Which of the following would indicate a failure of the control rods to insert?

- A. "ROD CONTROL NON URGENT FAILURE" alarm, 2-ALB10-2C1, window A06
- B. "TAVG/TREF DEVIATION" alarm, 2-ALB12-1C1, window A05
- C. "TERR (TAVG-TREF) LO" alarm, 2-ALB12-1C1, window C06
- D. "RC LOOP TAVG/AUCT TAVG HI-LO DEV" alarm, 2-ALB12-1C1, window A04

B

Ref: annunciator response procedure 17010-2 and 17012-2
Drastically modified SQN exam bank, dist #2 changed per lic

Answer: B

17. 061AA2.05 001

Unit 1 was shutdown in mode 5 for refueling when a fuel handling accident occurred in the FHB. A spent fuel bundle impacted the side of the canal, causing cladding damage.

- The operator's current annual dose is 3875 mrem TEDE, quarterly dose is 1200 mrem.
- Dose rate in the area of the refueling bridge controls is 1500 mr/hr.
- HP has specified full PCs and a SCBA for entry.

Which of the following represents the maximum stay time allowed in the area of the fuel handling bridge controls without exceeding station administrative limits?

- A. 33 minutes
- B. 27 minutes
- C. 25 minutes
- D. 20 minutes

C

ref: LO-LP-63920-06-C, pg7
 $4500 - 3875 = 500$ mr to limit, $625/1500 = 25$ minutes

Vogtle 1999 exam bank, modified

Answer: C

18. 055K3.01 001

Unit 2 is operating at 80% power. The pressure in main steam supply header to steam jet air ejectors (SJAEs) slowly drops by about 5% due to a small steam leak.

Which of the following describes the effect on the condenser and generator?

- A. Psat increases, Tsat increases, and generator output increases.
- B. Psat decreases, Tsat decreases, and generator output decreases.
- C. Psat increases, Tsat increases, and generator output decreases.
- D. Psat decreases, Tsat decreases, and generator output increases.

C

ref: LO-LP-

a reduction in air removal causes the air and noncondensable gases inventory in condenser to increase. This reduces the efficiency which causes the enthalpy across the turbine to decrease. When efficiency decreases less work from the steam is converted to work, more rejected as heat.

Vogtle 1999 exam bank

Answer: C

19. 026AA1.02 001

Given the following plant conditions:

- Unit 2 in mode 3 for maintenance
- ALB 04, window A2, "ACCW LO HDR PRESS" is alarming
- ALB07, window D3, "LTDN HX OUT HI TEMP" is alarming

Which of the following events could cause both alarms to actuate?

- A. Letdown HX tube rupture
- B. ACCW supply header rupture
- C. Loss of seal injection
- D. Loss of charging flow

B

ref: AOP 18022-C, Loss of Auxiliary Component Cooling Water, rev 12

- a. incorrect- the combination of alarms indicates an ACCW not Letdown Hx failure
- b. correct
- c. incorrect - loss of seal injection would not cause either of these alarms
- d. incorrect - loss of charging flow would cause a hi temperature alarm in the regenerative hx not the letdown hx

SQNNRCEX bank slightly modified

Answer: B

20. 003K6.02 001

How would a reactor coolant pump seal be affected if the #1 seal bypass valve was opened with the associated reactor coolant pump running at normal RCS operating pressure?

- A. Flow across the #1 seal will fall to 0 gpm and the seal will be damaged due to overheating.
- B. Differential pressure changes across the #1 seal resulting in unbalanced seal rotation.
- C. Full RCS pressure is applied to the #3 seal, causing it to act as the primary seal.
- D. Pressure to the seal return line to the VCT is lowered, causing flow across the #2 seal to drop.

B

ref:LO-LP-16401, student text 1A, Westinghouse system descriptions
Byron 2001Exam bank

Answer: B

21. 062AA2.03 001

Two Nuclear Service Cooling Water (NSCW) pumps are operating. One of the operating NSCW pumps trip, resulting in a low header pressure condition. Simultaneously, a safety injection signal is received due to a steam line break and the standby NSCW pump fails to start.

Which of the following prevented the standby NSCW pump from starting?

- A. There is no signal from the sequencer to start the third pump.
- B. Reverse flow through the tripped pump causes excess starting current and trips the pump's circuit breaker.
- C. The pump's discharge valve is fully open.

D. The cooling water bypass valve is open.

C

Exam bank question #103 EB# LO-LP-06101-10-02

CFR 43.5

Answer: C

22. 011EGEN2.4.1 001

In step 29 of EOP 19000-C, "Reactor Trip or Safety Injection," checks if ECCS flow can be reduced. The following conditions exist on Unit 2:

- S/G #1 level = 5% NR
- S/G #2 level = 7% NR
- S/G #3 level = 12% NR
- S/G #4 level = 9% NR
- RCS subcooling is 40 deg F
- RCS pressure is stable
- PZR level is 35%
- Total AFW flow is 500 gpm
- Containment pressure is 1.8 psig

The Unit Supervisor should:

- A. Transition directly to procedure 19011-C, "ES-1.1 SI Termination"
- B. Transition to procedure 19012-C, "ES-1.2 Post LOCA Cooldown and Depressurization"
- C. Initiate status tree monitoring and continue in procedure 19000-C, "Reactor Trip or Safety Injection"
- D. Increase AFW flow to >570 gpm, then transition to procedure 19001-C, "ES-0.1 Reactor Trip Response"

A

ref: LO-LP-37022-01-02

Vogtle 9901 exam bank

Answer: A

23. 013A4.01 001

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

- Inadvertent safety injection due to technician error
- #1 S/G level transmitter selected for control fails low concurrent with the inadvertent SI
- #4 S/G level ARV opened momentarily after the reactor trip and developed a large

packing leak.

Which of the following would cause the initial feedwater isolation during this transient?

- A. The #1 S/G level reached 86%.
- B. The inadvertent safety injection actuation signal.
- C. Tavg decreasing to 564 deg F following the reactor trip.
- D. When AMSAC initiated following the reactor trip.

B

LO-LP-28301-05

- a. incorrect because SI already initiated FWI before SG reaches 86"
- b. correct SI initiates FWI (inadvertent or not)
- c. incorrect would normally be actuated following a Rx trip but SI did it already
- d. AMSAC does not initiate FWI; it starts AFW

watts bar 98-01 diff K/A #

Answer: B

24. 069AA2.02 001

During the performance of procedure 14471, "Containment Integrity Verification - Valves Outside Containment", the operator noted that valve 1-1204-U4-160, "Safety Injection Accumulator Tank Loop 2 Local Sample Connection" was found open and damaged so that it cannot be closed.

Which of the following statements provides the correct status of containment integrity and the correct action for restoring containment integrity if lost or the correct reasoning why containment integrity has not been lost?

A. Containment integrity has NOT been lost; only Engineered Safeguard system penetrations are included as part of containment integrity.

B. Containment integrity is lost; manual actuation of Containment Ventilation Isolation (CVI) system will restore containment integrity.

C. Containment integrity is lost; manual isolation of the penetration by the use of another valve if available will restore containment integrity.

D. Containment integrity has NOT been lost, as long as the piping for Safety Injection Accumulator Tank Loop 2 Local Sample Connection remains intact containment integrity is maintained.

C

Ref: LO-LP-39210-12-C Containment Systems 3.6,

Technical Specifications 3.6.3 Containment Isolation Valves
CFR 43.5

Answer: C

25. 069AK1.01 001

The following conditions exist on Unit 1:

- LOCA is in progress.
- Containment pressure peaked at 54 psig.
- Containment Spray and containment coolers failed to actuate due to a system malfunction.
- Containment pressure begins to drop rapidly.

Which of the following is the most likely cause of the pressure reduction?

A. Containment has developed a leak, and the pressure in containment will continue to lower at a constant rate.

B. The containment has been vented in accordance with procedure 19251-C, FR-Z.1, Response to High Containment pressure, and containment pressure will lower at a constant rate.

C. Containment has developed a leak and as the pressure in containment decreases the rate of pressure reduction will decrease.

D. The containment has been vented in accordance with procedure 19251-C, FR-Z.1, Response to High Containment pressure; as the pressure in containment decreases the rate of pressure reduction will decrease.

C

- a. incorrect - the pressure in containment will lower due to the leak but as containment pressure decreases the containment leak rate will decrease.
- b. incorrect - FR-Z.1 does not have a step for venting containment, and the RCS leak will increase as containment pressure lowers.
- c. correct
- d. incorrect - FR-Z.1 does not have a step for venting containment, although the containment leak will decrease as containment pressure lowers.

Answer: C

26. 032AK1.01 001

I&C just completed a surveillance on the high voltage power source to the source range/ intermediate range (SR/IR) nuclear instruments. Voltage was 750 vdc, normal value is 850vdc.

Which one of the following describes the affect and the reason that this lower than normal voltage has on SR/IR performance?

- A. Indicated power will not be affected because the high voltage only supplies power to the electronic circuitry for the amplifier.
- B. Indicated power will increase because of the lowered preamplifier low noise current input pulse.
- C. Indicated power will decrease because smaller pulses are generated by the alpha decay of U235 and gamma interactions.
- D. Indicated power will decrease because the reduced voltage in the high voltage power supply provides less biasing to sweep ions from the fission chamber.

D

ref: LO-LP 17103-00-C

- a. incorrect - indicated power decreases because the bias to sweep ions from the fission chamber is deminished due to the high voltage lower value
- b. incorrect - indicated power decreases because the bias to sweep ions from the fission chamber is deminished due to the high voltage lower value
- c. incorrect - indicated power decreases because the bias to sweep ions from the fission chamber is deminished due to the high voltage lower value, the alpha decay has nothing to do with this
- d. correct - the swept ions are directly proportional to power output, if voltage is lower and there is less bias for sweeping indicated power decreases.

Vogtle 1999 exam bank

Answer: D

27. 033K1.05 001

Procedure 13719-1, "Spent Fuel Pool Cooling and Purification Systems (SFPCPS)," section 4.2.1, "SFP Filling and Makeup from RWST" is in progress. The following actions are completed:

- Verify CLOSED SAFETY INJ RWST PURIF PMP INLET ISO 1-1204U4-158
- OPEN SAFETY INJ RWST To SFP ISO VLV 1-1204-U4-066. (RA44)

According to procedure 13719-1, which of the following parameters MUST be monitored while this evolution is in progress and why?

- A. SFP boron concentration, to ensure a minimum boron concentration of 2000 ppm.
- B. Spent Fuel Pool level, to prevent overflowing the SFP.

C. RWST level, to maintain at least 5.2% (36,000 gallons) above the Technical Specification limit.

D. RWST level, to maintain at least the Technical Specification limit.

B

ref: 13719-1, Spent Fuel Pool Cooling and Purification Systems (SFPCPS), caution states that when gravity filling from the RWST, the spent fuel pool level must be monitored continuously to prevent overflowing the SFP.

Answer: B

28. 017A1.01 001

Unit 1 had the following status:

- Reactor trip with loss of AC power 2 hours ago
- Core exit thermocouples indicate 650 degrees F and are increasing
- Steam generator pressure is 815 psig and stable
- Steam generator steam flow is undetectable

Which of the following describes the plant condition?

- A. reactor coolant system subcooling margin is increasing
- B. reactor core is uncovered and core damage is imminent
- C. loss of natural circulation
- D. natural circulation flow is increasing

C

LO-LP-37031-15-C
modified TP 2001

Answer: C

29. 017A4.02 001

The operating crew is responding to inadequate core cooling with the following conditions:

- Crew is unable to reinitiate ECCS flow
- S/G depressurization proves ineffective due to loss of secondary heat sink
- All core exit thermocouples indicate > 1200 degrees F
- RVLIS indicates < 33% and slowly decreasing
- RCP seal injection startup criteria cannot be established

Based on the above conditions, which of the following operator actions is required?

- A. Do not start RCPs; continue attempts to reestablish ECCS flow.
- B. Do not start RCPs; continue attempts to reestablish a secondary heat sink.
- C. Open Pzr PORVs and block valves, then start RCPs, one at a time.
- D. Start RCPs, one at a time, until core exit thermocouples are < 1200 degrees F.

D

ref:

- a. incorrect - RCPs will be started regardless of support conditions
- b. incorrect - RCPs will be started regardless of support conditions
- c. incorrect - PORVs opened only after all RCPs on and incore TC still indicate > 1200 F
- d. correct - RCPs will be started one at a time even if support conditions cannot be established and incore temp indicate >1200 F

Watts Bar 9801 exam bank

Answer: D

30. GEN2.1.33 001

Which of the following Refueling conditions requires boration per Technical Specification 3.9.1, Refueling Operations?

- A. Keff is less than 0.95
- B. 1/M plot is a horizontal line after fuel movement has ceased.
- C. RCS boron concentration is 1853 ppm.
- D. RCS temperature is 68 degrees F.

C

Ref: TS 3.9.1, COLR Unit 1 Cycle 10 section 2.9

CFR 43.2, 43.3

Answer: C

31. GEN2.2.15 001

Which of the following Temporary Modifications requires administrative controls, in accordance with procedure 00307-C, "Temporary Modifications?"

- A. Installation of electrical jumpers for a MWO authorizing work on equipment tagged out of service.
- B. Installing hoses or tubing to system drains to facilitate draining of out of service equipment.

C. Installing a pressure gauge to pre-existing instrument root valve on the suction of a pump per the IST procedure.

D. Installing a temporary space heater to prevent freezing of a safety related system component during inclement weather.

D

Ref: Temporary Modifications (00307-C)

CFR 43.3

Answer: D

32. 040AA2.01 001

Unit 1 is operating at power when the following indications are reported:

- Reactor power is 99% and slowly INCREASING.
- Auct High Tavg is 576 F and slowly DECREASING.
- RCS pressure is 2210 psig and slowly DECREASING.
- Turbine load is 1050 MWe and DECREASING.
- Steam Pressure is 970 psig and slowly DECREASING.
- Containment Pressure is 1 psig and slowly INCREASING.

Based on the reported parameters, there is a?

- A.feedline break inside Containment.
- B.RCS leak inside Containment.
- C.sequential loss of the 4, 5, and 6 'Alpha' string of high pressure feedwater heaters.
- D.steamline break inside Containment.

D

Ref: P/18008-1, Rev 2, T/35, Rev 0 EB#278 LO-LP-60308-04-01

CFR 43.5

Answer: D

33. 037A2.05 001

Given the following conditions on Unit 2:

- The unit is at 100% RTP
- Chemistry has just reported the primary to secondary leak rates for
 - SG 1 as 0.2 gpm
 - SG 2 as 0.4 gpm

SG 3 as 0.2 gpm

SG 4 as 0.1 gpm

- Previous history shows a doubling in leak rate for both for SG 2 and SG 3 in the last 24 hours.

Which Technical Specification 3.4.13 RCS operational leakage limit is being exceeded?

- A. Maximum total primary to secondary leakage through all steam generators.
- B. Maximum identified leakage.
- C. Maximum increase in any steam generator leakage over a 24 hour period.
- D. Maximum leakage per day primary to secondary leakage through any one steam generator.

D

Ref: Technical Specifications 3.4.13

CFR 43.5

Answer: D

34. 075A2.03 001

The unit is operating at 48% power. Which one of the following is correct if condenser absolute pressure decreases (vacuum increases)?

Tsat for the condenser....

- A.increases and cycle efficiency decreases
- B.decreases and cycle efficiency decreases
- C.increases and cycle efficiency increases
- D.decreases and cycle efficiency increases

D

ref: LO-TP-07101 learning objective 007

A change in condenser pressure (vacuum) will change condenser performance

1. for a given power level with condenser at saturation conditions;
when condenser pressure decreases (vacuum increases)
 - Tsat for condenser decreases
 - less heat stored in condenser
 - turbine work increases &
 - Cycle efficiency increases

Answer: D

35. GEN2.2.9 001

Which of the following reasons provided does NOT require a 10CFR50.59 evaluation and license amendment prior to implementing a proposed change, test, or experiment?

If the proposed change, test, or experiment would.....

- A. ...result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the FSAR (as updated).
- B. ...result in any increase in the consequences of an accident previously evaluated in the FSAR (as updated).
- C. ...create a possibility for a malfunction of an SSC important to safety with a different result than any previously evaluated in the FSAR (as updated).
- D. ...create a possibility for an accident of a different type than any previously evaluated in the FSAR (as updated).

B

Ref: 10CFR50.59
CFR 43.3

Answer: B

36. GEN2.3.6 001

Waste Monitor tank 009 is full and needs to be released. Radiation Monitor 1-RE-0018, Waste Disposal Liquid Effluent Monitor, is inoperable. Estimated return-to-service time is 36 hours.

Which of the following describes the actions necessary per 13216-1, "Liquid Waste Release" to make a radioactive liquid release under these circumstances?

- A. No release can be made until Radiation Monitor 1-RE-0018 is returned to service.
- B. Sample results must show that the specific activity of the liquid to be released is less than 1E4 microcuries per milliliter, and the radiochemists approval obtained.
- C. One sample per tank must be analyzed and one qualified member of the plant staff verifies the release rate calculations and discharge line valving.
- D. At least two separate samples must be analyzed by Chemistry and Chemistry "Action statement 37 Sheet" attached to the release permit. Document verification and method in the ABO logbook.

D

Ref: Liquid Waste Release Procedure 13216-1, LO-LP-47110-18-C

CFR 43.4

Answer: D

37. GEN2.4.47 002

Following a steam generator tube rupture event, RHR cooling was placed in service. RHR has been maintaining a stable RCS temperature for 5 days. The IPC trend for the CCW surge tank train A indicates that the level has increased from 70% to 80% over the last 2 hours. IPC trend for RE-0017A, CCW process monitor is stable at normal background and Train "A" Cooling Water Temperature recorder on the QPCP show no changes in the parameters. Which of the following is the source of the increase in surge tank level.

- A. RHR Pump Seal Cooler.
- B. Spent Fuel Pool Heat Exchanger.
- C. Normal expansion due to temperature changes resulting from system operation.
- D. Component Cooling Water Heat exchanger.

D

REF: CCW Chapter 10B pg 17

Answer: D

38. W/E04EA1.1 001

The crew is responding to a LOCA outside containment. The reactor was tripped and an SI was manually actuated. They have completed procedure 19112-C, "LOCA Outside Containment" and transitioned to procedure 19111-C, Loss of Emergency Coolant Recirculation" since they were unable to isolate the leak.

Which one of the following choices describes the correct actions to take in 19111-C under the described conditions?

- A. Initiate RCS cooldown, verify containment cooling units running in low speed, minimize the number of CS pumps running based on containment and RWST conditions.
- B. Shift containment cooling units to fast speed, stop all CS pumps and minimize ECCS flow to maintain at least 24 degrees F subcooling.
- C. Initiate RCS cooldown, establish one train of ECCS flow to maintain subcooling greater than 74 degrees F and start makeup to the RWST.
- D. Initiate RCS cooldown, minimize ECCS flow to keep RVLIS full range greater than 62% and start makeup to the RWST.

D

Ref: O/LO-LP-37111-01, O/WOG-ERG background

From the licensee's exam bank

Answer: D

39. 011EA2.09 001

The following conditions exist:

- Unit 2 experienced a small break LOCA
- All reactor coolant pumps are secured
- AFW flow to steam generators is 580 gpm

Which of the following is an indication of natural circulation flow?

- A. Steam Generator levels increasing
- B. RCS pressure increasing
- C. Core exit thermocouple temperatures increasing
- D. RCS subcooling increasing

D

- a. incorrect - SG level rising is from either the AFW flow increasing level or from temperature increase which would indicate the RCS temperature is increasing
- b. incorrect - indicates that RCS temp is increasing
- c. incorrect - indicates that RCS temp is increasing
- d. correct

Answer: D

40. 015AK3.03 001

Given the following:

- Unit 1 is operating at 75% RTP
- RCP #1 CONTROLLED LKG HI/LO FLOW annunciator is lit
- RCP #1 SEAL LO delta P annunciator is lit
- The RO referred to the appropriate ARPs, then determined that #1 seal leakoff flow was off-scale high and the #1 seal delta p was indicating off-scale low.

Which of the following actions is correct?

- A. Close the #1 seal return valve, reduce power to less than 48%, then stop affected RCP.

- B. Close the #1 seal return valve, trip the reactor, then stop affected RCP.
- C. Reduce power to less than 48%, then stop affected RCP, then close the #1 seal return valve after RCP coastdown.
- D. Trip the reactor, stop affected RCP, then close the #1 seal return valve after RCP coastdown.

D

REF: ARPs and procedure 13003-1

Rewrote question from Watts Bar 1998 (RO bank)

Answer: D

41. 033A2.10 001

Given the following conditions:

- Reactor thermal power is 4%
- Both IR NI-35 and NI-36 are inoperable

What is the technical specification required action for this situation?

- A. Suspend operations involving positive reactivity additions immediately and within 2 hours reduce thermal power to <P-6.
- B. Reduce thermal power to <P-6 within 24 hours or increase thermal power to >P-10 within 24 hours.
- C. Restore channels to operable status in 48 hours or be in Mode 3 in 54 hours.
- D. Restore channels to operable status prior to increasing thermal power to >P-6.

A

Ref: Technical Specification 3.3.1 Reactor Trip System Instrumentation, Table 1.1-1 Modes CFR 43.5

Answer: A

42. GEN2.4.35 001

The operations personnel are being evacuated because of fire in the control room and dispatched to their assigned locations per procedure 18038-1, "Operation from the Remote Shutdown Panels". The System Operator is directed to feed the steam generators using the Turbine Driven AFW pump.

How does the System Operator feed the steam generators using the Turbine Driven AFW pump from outside the control room?

The System Operator

- A.must operate all valves using the manual handwheels and manually control turbine speed and discharge pressure to feed the steam generators.
- B.must coordinate with operators at Shutdown Panel A and B to manipulate the necessary valves to feed the steam generators. The System Operator controls Turbine Driven AFW pump speed and discharge pressure using the controls on Shutdown Panel C.
- C.places the transfer control for the Turbine Driven AFW pump in local and depresses the manual initiation pushbutton on Shutdown Panel C.
- D.using the instrumentation and controls on Shutdown Panel C, can operate the necessary valves and speed control necessary to feed steam generator.

D

Ref: 18038-1 "Operation from the Remote Shutdown Panels", LO-LP-60327-06-C,
LO-LP-60328-09-C

CFR 43.5

Answer: D

43. W/E04A2.01 001

Procedure 19000-C, "E-0, Reactor Trip or Safety Injection," has been entered on Unit 1 due to an automatic initiation of safety injection and a reactor trip. The following plant conditions were observed:

- Reactor coolant system pressure is 1500 psig and decreasing slowly.
- Plant Vent Effluent Particulate, Iodine and Gas monitors RE-12442A, B, C readings are trending up
- The safety injection pump suctions are aligned to the RWST.
- Residual heat removal pump suctions are aligned to RWST.
- RWST level is 75%.
- Containment Sump levels are stable at 0 inches

The above plant conditions would require transition from 19000-C into which of the following procedures?

- A. 19111-C, "ECA1.1 Loss of Emergency Coolant Recirculation."
- B. 19112-C, "ECA1.2 LOCA Outside Containment."
- C. 19011-C, "ES1.1 SI Termination."
- D. 19005-C, "ES0.0 Rediagnosis."

B

Ref: E-0 Reactor Trip or Safety Injection 19000-C Rev. 27 Step 32
CFR 43.5

Answer: B

44. 015K5.04 001

Manual calibration of the NIS is being performed in accordance with procedure 14030-2, "Nuclear Instrument Calorimetric Calibration." Feedwater average temperature is incorrectly calculated to a value 17 degrees less than actual. For these conditions which of the following is correct?

Calculated reactor thermal power will be:

A. lower than actual and a gain adjustment of the NI channels using the calculated value would be non-conservative such that indicated power is farther from the setpoints.

B. higher than actual and a gain adjustment of the NI channels using the calculated value would be non-conservative such that indicated power is farther from the setpoints.

C. lower than actual and a gain adjustment of the NI channels using the calculated value would be conservative such that indicated power is closer to the setpoints.

D. higher than actual and a gain adjustment of the NI channels using the calculated value would be conservative such that indicated power is closer to the setpoints.

D

ref: 14030-2, rev 27, LP-LO-17301

- a. incorrect - calculated is higher than actual
- b. incorrect - calculated is higher than actual and therefore conservative
- c. incorrect - calculated is higher than actual
- d. correct

modified from TP 2001 exam

Answer: D

45. W/E12EK1.2 001

The following conditions exist on Unit 2:

- Reactor trip and safety injection occurred
- All steam generators' pressures are decreasing and appear faulted
- All attempts to isolate the steam generators have failed
- All steam generators' levels are < 10% narrow range
- RCS cooldown is >100 degrees in last 60 minute period.

Concerning auxiliary feedwater: procedure 19121-C, "Uncontrolled Depressurization of All Steam Generators," directs the operator to:

- A. reduce AFW flow for each steam generator to zero flow to stop RCS cooldown.
- B. maintain AFW flow at 30 gpm for each steam generator until narrow range level is >10%.
- C. reduce total AFW flow by 30 gpm to minimize RCS cooldown until narrow range level is >10%.
- D. maintain total AFW flow >570 gpm to prevent entry into FRP H.1.

B

- a. incorrect - flow should not be reduced to zero. This would cause SG dry out
- b. correct - per procedure
- c. incorrect - feeds all SG at 30 gpm to prevent dry out
- d. incorrect - a note in FRP H.1 directs the operator not to perform H.1 if another procedure has the crew reduce flow and the capability for flow still exists.

Answer: B

46. 071K4.06 001

A gas transfer was in progress to the #10 Waste Gas Decay Tank. The tank was inadvertently over pressurized. As a result, the # 10 Waste Decay Tank relief valve lifted and failed to fully reseal.

Which of the following describes the plant response to this event?

- A. The release will be automatically isolated when RE-14, plant vent monitor, exceeds its alarm setpoint and closes Trip Valve RV-14.
- B. RE-12442A, B, or C plant vent effluent monitor will alarm and trip all running Auxiliary Building Exhaust Fans, terminating the release.
- C. The release will NOT be automatically isolated when RE-14, Plant Vent Monitor exceeds its alarm setpoint.
- D. The release will be automatically isolated when the plant vent effluent monitor RE-12442 A, B, or C exceeds its alarm setpoint and closes its valve.

c.

ref:LO-LP-32101-32

- a. incorrect - re-14 will alarm and close RV-14 but because the safety relieves into the pipe after RV-14, the release will not be isolated.
- b. incorrect - plant vent effluent monitor RE-12442 A,B,or C but have no automatic actions
- c. correct
- d. incorrect - plant vent effluent monitor RE-12442 A,B,or C does not have automatic actions

Answer: C

47. GEN2.1.3 001

Unit 1 is in Mode 1. You are the Unit 1 RO. The BOP is in the Turbine Building assisting the TBO. You are selected for a random drug test, which should take about 50 minutes.

Which of the following describes the minimum relief requirements for you to leave?

A. A brief walkdown of the control boards with a qualified RO who is knowledgeable of plant conditions, and the acknowledgment of the USS.

B. A relief is not necessary because the USS is a fully qualified SRO and is knowledgeable of plant conditions.

C. A full shift turnover to another licensed operator, with an entry in the control room log of who is responsible for the At-the-controls position.

D. The BOP must return to the control room and get permission from the USS, only plant conditions that have changed need to be addressed.

C

ref: 10004-C, LO-LP-63504

a. incorrect - relief is for > 45 min

b. incorrect - assigned USS can not relieve AOTC

c. correct

d. incorrect - require a board walkdown and acknowledgement from the USS

Answer: C

48. 076AGEN2.2.22 001

Unit 2 is in Midloop with the Hot Leg Nozzle Dams installed. Due to a common mode failure there has been a complete loss of nuclear service cooling water (NSCW). You enter 18021-C, "Loss of Nuclear Service Cooling Water System," core exit thermocouples begin to increase. CCW flow is constant and remains above 10,000 gpm. Ten minutes later the following SPDS points alarm:

- RHR Pump Current UD4623
- RHR trouble UN0626

Which of the following procedures do you enter?

A. Procedure 18019-C, Loss of Residual Heat Removal

B. Procedure 19221-C, Response to Inadequate Core Cooling

- C. Procedure 13011-2, Residual Heat Removal System
- D. Procedure 19222-C, FRC-2 Response To Degraded Core Cooling

A

ref: 18019-C, Loss of Residual Heat Removal

- a. correct - you have indications of RHR pump cavitation and a loss of RHR. These are entry conditions for 18019
- b. incorrect - procedure provides no guidance for Midloop operations
- c. incorrect - procedure for normal ops
- d. incorrect - not for midloop conditions

Answer: A

49. 041GEN2.1.20 001

During a cooldown on Unit 2 the following conditions existed:

- RCS loop Tave: Loop 1: 550 F and decreasing
Loop 2: 548 F and decreasing
Loop 3: 551 F and decreasing
Loop 4: 548 F and decreasing
- Steam header pressure: 1030 psig and decreasing
- Steam Dump Mode Selector switch: STM PRESS MODE
- Steam Dump Controller: MAN, set at 30% demand

The operator momentarily places train A and B Steam Dump Bypass Interlock switches to Bypass and then releases them.

What is the status of the Steam Dump valves following the operator's actions?

- A. All steam dump valves are fully closed.
- B. Only three steam dump valves in group 1 are partially open.
- C. Three steam dump valves in group 1 are fully open and steam dump valves in group 2 are fully shut.
- D. Three steam dump valves in group 1 are fully open and three steam dump valves in group 2 are partially open.

C

ref:

Byron 2001 Exam

- a. incorrect - man controller at 30%
- b. incorrect - man controller at 30%
- c. correct
- d. incorrect - group 2 not affected by Steam Dump Bypass Interlock switches

Answer: C

50. 035GEN2.1.20 001

Unit 2 is operating at 100% power. #2 steam generator has a tube leak that is 77 gpd at this time. The leak rate has been increasing at a stable rate of 35 gpd/hr for the past 45 minutes.

Which of the following actions would the operator take in accordance with procedure 18009-C, "Operation with a Confirmed Tube Leak Requiring Shutdown?"

- A. Be in Mode 3 within 6 hours by immediately initiating a shutdown per 12004-C Power Operation.
- B. Reduce power to <50% within 1 hour per 18013, Rapid Power Reduction, and be in Mode 3 within the next 2 hours.
- C. Trip the reactor and go to procedure 19000-C, "Reactor Trip or Safety Injection."
- D. Shutdown to Mode 3 within 1 hour using procedure 18013-C, "Rapid Power Reduction."

B

procedure 18009-C, Operation with a Confirmed Tube Leak Requiring Shutdown

- a. incorrect - required if leak was <5 gpm and >150 gpd
- b. correct
- c. incorrect - would be correct if the leak rate exceeded the capacity of the charging pump
- d. incorrect - would be the action if leak was > 5gpm

Answer: B

51. 073K4.01 001

Following a waste gas decay tank rupture, the alarms listed below are lit:

- 1-RE-12442A, Plant Vent Air Particulate (low range)
- 1-RE-12442B, Plant Vent Iodine Particulate (low range)
- 1-RE-12442C, Plant Vent Radiogas Particulate (low range)
- 1-RE-12444A, Plant Vent Air Particulates - (high range)
- 1-RE-12444B, Plant Vent Passive Iodine Cartridge - (high range)
- 1-RE-12444C, Plant Vent Wide Range Radiogas (low range)
- 1-RE-12444D, Plant Vent Wide Range Radiogas (mid range)
- 1-RE-12444E, Plant Vent Wide Range Radiogas (high range)

What is the status of the containment isolation valves as a result of these alarms?

- Assume all automatic actions and initial operator actions have occurred-

- A. The containment valves will not change position.

- B. Phase "A" containment isolation valves will close.
- C. Containment ventilation will isolate only.
- D. Phase "A" containment isolation valves will close and containment ventilation will isolate.

A

ref:ARP 17100

Per 17100 there are no automatic actions or initial operator actions associated with these monitors. They are indicative of high radiation in the vent stack.

Answer: A

52. GEN2.1.10 001

Given the following:

- Unit 1 is operating at 100% power.
- Thirty (30) minutes ago the power range instruments had been adjusted to be consistent with the last Nuclear Instrument calorimetric calibration (14030-1).
- Review of the Nuclear Instrument calorimetric calibration (14030-1) documentation revealed an input error existed which resulted in the calculated MWth being 40 MWth lower than actual.

What action is required for exceeding maximum licensed power of 3565 MWth in this situation?

- A. Reduce power, Recalibrate the power range instruments, monitor average core thermal power using procedure 14915-1, "Special Conditions Surveillance Logs."
- B. Within 1 hour start to place the unit in Mode 3, be in Mode 3 within 7 hours, Mode 4 within 13 hours, and Mode 5 with 37 hours, operation shall not be resumed without NRC approval.
- C. If maximum licensed power of 3565 MWth is violated, restore compliance and be in Mode 3 within 1 hour, operation shall not be resumed without NRC approval.
- D. Recalibrate the power range instruments. No other action required. It is permissible to exceed 3565 MWth by as much as 2% for as long as eight hours.

A

Procedure Power Operation Mode 1 (12004-C), Nuclear Instrumentation Calorimetric Calibration (14030-1), Facility License Unit 1
CFR 43.1

Answer: A

53. 022K3.02 001

The Unit is at 100% power. During performance of pressurizer level instrument calibration the technicians inadvertently performed a cold calibration on LT-460 rather than the appropriate hot calibration. What is the affect on LT-460 indicated level due to this error?

A. The indicated level will be lower than actual because the hot calibration procedure assumes a variable leg temperature that is higher than the variable leg temperature assumed in the cold calibration procedure.

B. The indicated level will be higher than actual because the hot calibration procedure assumes a variable leg temperature that is higher than the variable leg temperature assumed in the cold calibration procedure.

C. The indicated level will be lower than actual because the hot calibration procedure assumes a variable leg temperature that is equal to the variable leg temperature assumed in the cold calibration procedure.

D. The indicated level will accurately indicate actual because at 100% power the assumed variable leg temperature does not effect the instrument calibration.

A

ref: LO-LP-16302

Answer: A

54. GEN2.4.47 001

The plant has been at 95 % power for 5 days. The IPC trend for the CCW surge tank train A indicates that the level has increased from 70% to 80% over the last 2 hours. IPC trend for RE-017A, CCW process monitor was stable at normal background and Train "A" Cooling Water Temperature recorder on the QPCP show no trending. Which of the following is the source of the increase in surge tank level.

A. RHR Pump Seal Cooler.

B. Spent Fuel Pool Heat Exchanger.

C. Normal expansion due to temperature changes resulting from system operation.

D. Component Cooling Water Heat exchanger.

D

REF: CCW Chapter 10B pg 17

Answer: D

55. W/E15K1.01 001

FSAR Flooding Analysis is based on which of the following?

The flood rate based on a worst-case pipe failure in ...

A. ...each safety related room or area and the level of flood water is based on automatic isolation or operator action after a time delay of 30 minutes.

B. ...each safety related room or area and the level of flood water is based on automatic isolation ONLY.

C. ...most limiting safety related room or area and the level of flood water is based on the volume of the source of the leaking water.

D. ...most limiting safety related room or area and the level of flood water is based on automatic isolation ONLY.

A

ref: LO-LP-61102-C

Answer: A

56. 076AA1.04 002

Which of the following would provide the earliest indication of a fuel failure?

A. Reactor Coolant Dose Equivalent Iodine sample

B. Reactor Coolant E-Bar calculation

C. 1RE12442-C, Plant Vent Radiogas Particulate effluent monitor

D. 1RE-48000, CVCS letdown monitor

D

ref: TS 3.4.16, TS basis section B3.4.16

Answer: D

57. 076AA1.04 001

Which of the following would provide the first indication of a fuel failure, if the failed fuel monitoring equipment was unavailable?

A. Reactor Coolant Dose Equivalent Iodine

B. Reactor Coolant E-Bar

- C. Reactor Coolant I-131 spike
- D. Reactor Coolant gross specific activity

C

ref: TS 3.4.16, TS basis section B3.4.16

- a. incorrect - major contributor is the decay term, will not be first indication
- b. incorrect - this is performed every 184 days, not realistically going to be the first indication
- c. correct
- d. incorrect - is a measure of the isotopes with half lives greater than 14 minutes, however, does not change as rapidly as the iodine spike.

Answer: C

58. 024AGEN2.2.1 001

Which of the following conditions requires emergency boration?

- A. All DRPI is lost. A reactor trip first out annunciates, the reactor trip breakers indicate open, and reactor power is in the intermediate range and decreasing.
- B. A spurious turbine runback to 85 percent has occurred. The T-ave deviation alarm annunciates, but rods fail to step in automatically.
- C. A spurious reactor trip occurred. DRPI indicates there is one shutdown rod stuck in the fully withdrawn position, and one control rod is stuck at 40 steps.
- D. A normal load reduction is in progress. As rods are allowed to automatically insert the ROD BANK LO LIMIT alarm annunciates and is verified valid.

C

ref: E-0, Reactor Trip or Safety Injection

Answer: C

59. 005AA1.01 001

Maintaining rod insertion limits within technical specifications, ensures which of the following is maintained?

- A. Entropy rise Hot channel factor within limits.
- B. Core can be subcritical by shutdown margin with one RCCA stuck.
- C. Dropped rod or misaligned bank will not result in peak power density that exceeds the center line melting criteria.

D. Uncontrolled RCCA withdrawal will not result in exceeding DNBR.

B

ref:LO-LP-27101-20

Answer: B

60. 045K1.18 001

Following a loss of a string of feed water heaters, the secondary plant undergoes a transient. During trouble shooting, Unit 1 trips from 87% power. All systems perform normally. The generator does not trip for 30 seconds. What is one of the reasons for this delay?

- A. Ensure RCP seals flow can be isolated in 30 seconds.
- B. RCPs won't be damaged by overspeed on SGTR.
- C. Maintains flow during transients where heat flux hot channel factor is a concern
- D. Prevents main turbine overspeed.

D

ref: lo-lp-31101-13-c 6, Main Generator Construction and Operation Chapter 14C

Answer: D

61. 034K3.01 001

Given the following conditions:

- reactor power @ 100%
- containment ventilation isolation actuation
- fuel handling post accident ventilation actuation
- control room emergency filtration actuation

Given that there was a failure of a single 120 VAC vital instrument panel, which of the following has failed?

- A. 1AY2A
- B. 1BY1B
- C. 1CY1A
- D. 1DY1B

A

lo-lp-01103-07, bank modified

Answer: A

62. 003AK3.04 002

A normal plant shutdown is in progress with the plant in Mode 2. One rod drops in Shutdown Bank A. The correct operator action, in accordance with procedure 18003-C, "Rod Control System Malfunction" is to:

- A. perform a normal reactor shutdown (bank insertion) using procedure 12005-C, "Reactor Shutdown (Mode 2 to Mode 3)."
- B. trip the reactor and go to procedure 19000-C, "EO Reactor Trip or Safety Injection."
- C. trip the reactor, verify reactor tripped, and continue in present procedure.
- D. verify reactivity change was greater than -40 pcm, trip the reactor and go to 19000-C.

B

Ref. - 18003-C, Rev 19

From Vogtle electronic exam bank

Answer: B

63. 057AK3.01 001

Which of the following completes the statement below?

If the Diesel Generator output breaker does not close on a bus loss of power and power has been restored to an AC emergency bus from the

- A. ...RAT, it is necessary to reset the sequencer using the DG BRKR FAILED TO CLOSE SEQUENCER UV RESET PUSHBUTTON to enable normal starting of the AC emergency loads.
- B. ...UAT, it is necessary to reset the sequencer using the DG BRKR FAILED TO CLOSE SEQUENCER UV RESET PUSHBUTTON to enable normal starting of the AC emergency loads.
- C. ...RAT, it is necessary to reset the sequencer using the DG BRKR FAILED TO CLOSE SEQUENCER UV RESET PUSHBUTTON to enable normal stopping of the AC emergency loads.
- D. ...UAT, it is necessary to reset the sequencer using the DG BRKR FAILED TO CLOSE SEQUENCER UV RESET PUSHBUTTON to enable normal stopping of the AC emergency loads.

C

ref: procedure 19100-C, caution on pg 5

Answer: C

64. 003AA2.04 001

A normal reactor startup is in progress per procedure 12003-C, "Reactor Startup (Mode 3 to Mode 2)" when Urgent failure QMCB annunciator is received. The RO notes that two (2) rods from Control Bank D are misaligned by 17 steps. The rest of the rods in D bank are properly aligned at 100 steps. Which one of the following is the correct operator action, in accordance with 18003-C, "Rod Control System Malfunction?"

- A. Perform a normal reactor shutdown using 12005-C "Reactor Shutdown to Hot Standby."
- B. Perform a rod retrieval using 18003-C, "Rod Control System Malfunction."
- C. Trip the reactor, go to 19000-C, "E-0 Reactor Trip or Safety Injection."
- D. Verify reactivity insertion was greater than 40 pcm or insert rods and/or borate to maintain flux and reactivity in range per 12003-C, "Reactor Startup."

C

Ref: 18003-C, "Rod Control System Malfunction"

CFR 55.43.5

Answer: C

65. 027K1.01 001

Which of the following must be added to the ECCS recirculation solution?

- A. Boron Nitrite, to assure that iodine which is removed by the sprays is retained in solution AND to minimize chloride-induced stress-corrosion cracking of austenitic stainless steel components.
- B. Lithium Hydroxide, to minimize chloride-induced stress-corrosion cracking of austenitic stainless steel components although it does not assure iodine is removed by the sprays nor is retained in solution.
- C. Trisodium Phosphate, to assure that iodine, which is removed by the sprays, is retained in solution AND to minimize the hydrogen produced by the corrosion of galvanized surfaces and zinc-based paints.

D. Calgon 100, to assure that iodine, which is removed by the sprays, is retained in solution AND to minimize the hydrogen produced by the corrosion of galvanized surfaces and zinc-based paints.

C

ref: LO-LP-15101 E.4.d enabling obj 4

A and D Boron Nitrite is used for corrosion inhibition in the CCW system

B is incorrect because this is not the purpose of lithium hydroxide

C is correct

Answer: C

66. 001GEN2.1.11 001

Given the following information:

- Due to an equipment malfunction in the automatic rod control system: a continuous rod withdrawal was initiated from an initial power level of 80%.
- The reactor operator selected "MANUAL" on the Rod Control Selector Switch which terminated the rod movement with the withdrawn control rod 15 steps higher than its group.
- All other systems are aligned in their at power lineups.
- Assume no reactor trip occurs and repair of the rod control system will take longer than one (1) hour.

What is the technical specification required action for this situation?

A. With the Rod Control System not capable of rod withdrawal, de-energize all control rod drive mechanisms within 1 hour.

B. With the Rod Control System not capable of rod withdrawal, initiate boration to restore SDM to within limit within 2 hours.

C. With one rod not within alignment limits, verify SDM is > the limit specified in the COLR within 2 hours.

D. With one rod not within alignment limits, verify SDM is > the limit specified in the COLR within 1 hour.

D

Ref: Technical Specification 3.1.4 Rod Group Alignment Limits

CFR 43.2

Answer: D

67. 007EK2.03 001

Given the following plant conditions:

- The reactor tripped 45 seconds ago.
- Turbine stop valves are closed.

- Megawatt meter at zero output.
- Main generator output breakers are closed.

Which one of the following states the condition of the generator and the correct operator response?

- A. Generator is acting as a load on the grid, depressurize steam lines and MSRs.
- B. Generator is motoring, depressurize steam lines and MSRs.
- C. Generator is motoring, depress trip permissive and trip open the Main Generator PCBs.
- D. Generator exciter has failed, locally open 3A & 3B MG set supply breakers.

C
reference:

EOPE0, step 18 RNO, 17031, Subsequent Operator actions

TP 2001 exam bank

Answer: C

68. 002K6.12 002

An automatic reactor trip and safety injection has occurred on Unit 2 as a result of lowering RCS pressure. The operators note the following conditions:

- Pressurizer pressure dropping prior to and following the safety injection
- RCS average temperature stable prior to and following the safety injection
- Pressurizer level rising prior to and following the safety injection
- Reactor power stable prior to the safety injection

Which of the following accidents would result in these conditions?

- A. steamline break
- B. double- ended hot leg break
- C. Stuck open pressurizer safety valve
- D. 4 inch break in an RCS cold leg

C

- a. incorrect - a steam line break would not cause pressurizer level to decrease
- b. incorrect - double-ended hot leg break would cause pressurizer level to decrease
- c. correct
- d. incorrect - 4 inch break in an RCS cold leg would cause pressurizer level to decrease

Answer: C

69. 025AK3.01 002

Given the following:

- Plant in Mode 5
- RCS filled and vented
- RCS temperature 175 degrees F
- RCS pressure 325 psig
- Train A RHR in service, Train B RHR tagged out for repairs.

Which of the following is the method of core cooling in the event of a loss of RHR shutdown cooling occurs?

- A. Actuate Safety Injection, spill through the PZR PORVs.
- B. Normal charging to RCS, spill through the PZR PORVs
- C. RCS flow with secondary heat sink established.
- D. Reflux cooling via any S/G with > 10% NR level.

C

ref: AOP 18019-C Loss of Residual Heat Removal

- a. - incorrect - SI pumps are tagged in mode 5
- b. - incorrect - spill through the PZR PORVs not in accordance with procedure and potentially introduces primary coolant to the containment.
- c. - Correct - preferred since does not adversely effect containment.
- d. - incorrect - with RCS at this pressure and temperature this method is not available.

Watts Bar 9801 exam bank

Answer: C

70. 059GEN2.2.17 001

Unit 1 is operating at power when the following events occur:

- Initial reactor power was at 95%.
- Malfunctions have occurred which resulted in Feedwater heaters 1A, 1B, 2A, 2B, 3A, and 3B steam extraction valves closing.

- Reactor power reduction to 65% using procedures 18013-C "Rapid Power Reduction" and 18016-C, "Condensate and Feedwater Malfunction".
- Current plant status is stable at 63% reactor power level.

What action should the SS or his designee take to initiate maintenance on the extraction steam valves?

A. The SS or his designee should make a declaration of an emergency WO per procedure 00350-C, "Work Request Program" and allow work to proceed without issuance or approval of a WO.

B. The SS or his designee should follow the normal work request program process per procedure 00350-C, "Work Request Program" and work should proceed with issuance and approval of a WO.

C. The SS or his designee should allow work to be done under the toolpouch maintenance program per procedure 00350-C, "Work Request Program".

D. The SS or his designee should allow operations to assist maintenance in exercising the extraction valves as part of emergency troubleshooting per procedure 00350-C, "Work Request Program".

B

Ref: 00350-C Work Request Program, 18016-C Condensate and Feedwater Malfunction, LO-LP-60331-01 Rapid Power Reduction
CFR 43.5

Answer: B

71. 022AA1.08 001

Given the following conditions on Unit 2:

- Reactor is at 100% power
- RCS boron concentration is 600 ppm
- 2-LV-112D inadvertently opens and 2-LV-112B inadvertently closes due to an error during slave relay testing
- Prior to this event, Pzr level and Tave were on program.

Which of the following describes how VCT level and reactor power will respond?

- A. VCT level increases, reactor power remains the same
- B. VCT level decreases, reactor power increases
- C. VCT level remains the same, reactor power decreases
- D. VCT level decreases, reactor power remains the same

C

ref:

level stays virtually the same since there is no appreciable change in inventory balance. Power decreases since the boron in RWST (inadvertently aligned) is > 2000 ppm

Answer: C

72. 001A3.06 002

Given the following:

- Unit 2 was operating at 100% power
- All controls are in automatic
- An emergency shutdown is in progress at 5% / min using procedure 18013-C, "Rapid Power Reduction," due to high turbine vibration

Which of the following would indicate a failure of the control rods to insert?

- A. "ROD CONTROL NON URGENT FAILURE" alarm, 2-ALB10, window A06
- B. "TAVG/TREF DEVIATION" alarm, 2-ALB12, window A05
- C. "TERR (TAVG-TREF) LO" alarm, 2-ALB12, window C06
- D. "RC LOOP TAVG/AUCT TAVG HI-LO DEV" alarm, 2-ALB12, window A04

B

Ref: annunciator response procedure 17010-2 and 17012-2
Drastically modified SQN exam bank, dist #2 changed per lic

Answer: B

73. 027AK1.01 002

Given the following:

- Plant is operating at 100% power
- Tavg at 586.4 degrees F and RCS pressure at 2235 psig
- Rod control is in manual
- All other control systems are in auto
- Average core exit thermocouples indicates 620 degrees F

Which one of the following would cause the core conditions to move further away from saturation?

- A. Loop 2 PZR spray valve fails partially open
- B. EHC circuit failure causes #4 control valve to fail closed

- C. A PZR pressure control failure causing all backup heaters to energize
- D. VCT makeup control failure causes inadvertent dilution of the RCS

C.

REF: GFET08

- a. incorrect - open PZR spray valve will cause a decrease in RCS pressure which moves conditions closer to saturation.
- b. incorrect - when the governor valve closes it causes reduced heat removal from the S/G resulting in increasing RCS temperature which moves conditions closer to saturation.
- c. CORRECT - the backup heaters will raise system pressure moving conditions further from saturation.
- d. incorrect - dilution would cause increasing Tavg moving conditions closer to saturation

Watts Bar 9801 exam bank

Answer: C

74. 003K6.02 002

How would a reactor coolant pump seal be affected if the #1 seal leakoff valve was shut with the associated reactor coolant pump running at normal RCS operating pressure?

- A. Flow across the #1 seal will fall to 0 gpm and the seal will be damaged due to overheating.
- B. Differential pressure changes across the #1 seal resulting in unbalanced seal rotation.
- C. Full RCS pressure is applied to the #2 seal, causing it to act as the primary seal.
- D. Pressure to the seal return line to the VCT is lowered, causing flow across the #2 seal to drop.

C

ref:LO-LP-16401, student text 1A, Westinghouse system descriptions

Byron 2001Exam bank

Answer: C

75. 033K1.05 002

Given the following Unit 2 conditions:

- A loss of both trains of CCW has occurred
- The operating crew is implementing AOP-18030-C, "Loss of SFP Level or Cooling"
- SFPC pump 2B is tagged for repairs
- SFP level is at 213 feet

Which of the following correctly describes the proper actions to take?

- A. Perform SFP bleed & feed operations with the RWST simultaneously.
- B. Sequentially perform SFP bleed & feed using the RWST. Starting with feed operation.
- C. Perform SFP bleed & feed operations with the RMWST simultaneously.
- D. Sequentially perform bleed & feed using the RMWST. Starting with the bleed operation first.

B

ref: 13719-1, Spent Fuel Pool Cooling and Purification Systems (SFPCPS), licensee rewrite

Answer: B

76. 022AA1.08 002

Given the following conditions on Unit 2:

- Reactor is at 100% power
- RCS boron concentration is 600 ppm
- 2-LV-112D inadvertently opens and 2-LV-112B inadvertently closes due to an error during slave relay testing
- Prior to this event, Pzr level and Tave were on program.

Which of the following describes how VCT level and Tave will respond?

- A. VCT level increases, Tave remains the same
- B. VCT level decreases, Tave increases
- C. VCT level increases, Tave decreases
- D. VCT level decreases, Tave remains the same

C

ref:

level stays virtually the same since there is no appreciable change in inventory balance. Power decreases since the boron in RWST (inadvertently aligned) is > 2000 ppm

Answer: C

77. 010K6.02 001

At 100% power, pressurizer level channel LT-459 fails low. Pressurizer level control is selected to 459/460 position. Assuming no operator action is taken; which one of the following best describes plant response for the given conditions?

A. Charging flow decreases, pressurizer level decreases, letdown isolates on actual low pressurizer level, level increases and stabilizes at setpoint.

B. Letdown isolates, charging flow remains constant, pressurizer level increases, backup heaters energize on high level deviation, a reactor trip on high pressurizer level occurs.

C. Letdown isolates, all heaters trip, charging flow increases, actual level increases, a reactor trip on high pressurizer level occurs.

D. All heaters trip, actual pressurizer level and charging flow remain constant, pressurizer pressure decreases, reactor trip on low pressurizer pressure occurs.

C

Licensee's exam bank

Answer: C

78. W/E15K1.01 002

Given the following:

- Unit 1 is at 100% reactor power
- The plant trips following a large primary LOCA
- The crew is implementing FR-2.2, 19252-C, "Response to CNMT Flooding" due to higher than expected CNMT sump levels during a primary LOCA

Which of the following is a potential source of the flooding?

A. Component Cooling Water (CCW) system

B. Demineralized Makeup Water system (DMWS)

C. Reactor Makeup Water System (RMWS)

D. Nuclear Service Cooling Water (NSCW) system

D

ref: LO-LP-

Answer: D

79. 055K3.01 002

Unit 2 is operating at 80% power. The steam jet air ejectors (SJAEs) header develops a small steam leak which causes SJAЕ pressure to drop and stabilize at a slightly lower value.

Which of the following describes the effect on the condenser and generator?

- A. Psat increases, Tsat increases, and generator output increases.
- B. Psat decreases, Tsat decreases, and generator output decreases.
- C. Psat increases, Tsat increases, and generator output decreases.
- D. Psat decreases, Tsat decreases, and generator output increases.

C

ref: LO-LP-26201

a reduction in air removal causes the air and noncondensable gases inventory in condenser to increase. This reduces the efficiency which causes the enthalpy across the turbine to decrease. When efficiency decreases less work from the steam is converted to work, more rejected as heat.

Vogtle 1999 exam bank

Answer: C

80. 059A3.03 001

Unit 2 is operating at 100% power. A motor failure causes the loss of one heater drain pump. Which of the following describes the effect this will have on FWP operation?

- A. The FWP speed will decrease to compensate for the decrease in suction pressure to maintain programmed delta-pressure across the main feed reg valves.
- B. The FWP speed will remain unaffected by this, as will the position of the mainfeed regulating valves.
- C. The FWP speed will increase to compensate for the decrease in suction pressure to maintain programmed delta-pressure across the main feed reg valves.
- D. The FWP speed will increase and mainfeed regulating valves will close, to compensate for the increase in suction pressure.

c

ref: LO-LP-18101

from INPO bank

- a. incorrect - FWP speed will increase due to D/P increase
- b. incorrect - lower suction pressure will effect the FWP speed and reg valves
- c correct
- d. incorrect - main reg valves will open

Answer: C

81. 045K1.18 002

Following a loss of a string of feed water heaters, the secondary plant undergoes a transient. During trouble shooting, Unit 1 trips from 87% power. All systems perform normally. The Main Generator Output Breakers do not trip for 30 seconds.

What is one of the reasons for this delay?

- A. Ensure RCP seals flow can be isolated in 30 seconds.
- B. RCPs won't be damaged by overspeed on SGTR.
- C. Ensures proper RCP coastdown.
- D. Prevents main turbine overspeed.

D

ref: lo-lp-31101-13-c 6, Main Generator Construction and Operation Chapter 14C

Answer: D

82. W/E08AK202 001

A multiple steam generator depressurization occurred, resulting in a red path for the RCS integrity critical safety function.

Which of the following describes actions to preclude a PTS condition?

- A. Allow heatup of the RCS after termination of safety injection to get RCS temperature above the NDTT temperature quickly.
- B. Terminate safety injection as soon as allowed to prevent taking the RCS water solid while cold.
- C. Do Not reduce RCS pressure since this will cause excessive additional tensile hoop stress in the reactor vessel.
- D. Continue safety injection pump operation until the RCS reaches the cold shutdown condition.

B

ref: Lo-LP-37071, 19241-C

per procedure less restrictive SI termination criteria

Answer: B

83. 036AGEN2.2.12 001

Unit 2 is in Mode 6. Procedure 14228, "Operations Monthly Surveillance Logs," was completed, which ensured the isolation of all unborated water sources. Following completion of 14228

(reference available), what is required for reactor makeup water valves 2-1208-U4-176 and 177 to be opened for chemical addition?

The valves may be opened under administrative control provided...

A. ...RCS is in compliance with boron concentration requirements of LCO 3.9.1, "Shutdown Operations Boron Concentration," and the High Flux At Shutdown alarm is operable.

B. ...RCS is in compliance with boron concentration requirements of LCO 3.9.1, "Shutdown Operations Boron Concentration," and two Source Range Nuclear Instruments are operable.

C. ...Mode 6 level indication is operable with continuous visual indication in the Control room and one audible indication in the Containment and Control room per TR 13.9.6, "Source Range Monitor Audible Indication."

D. ...Mode 6 boron concentration is maintained current and one audible indication in the Containment and Control room per TR 13.9.6, "Source Range Monitor Audible Indication."

A

ref: 14228-2

Provide copy of procedure

per precaution on pg 5 of 14228-2

Answer: A

84. 059K1.04 002

The following timeline exists:

- Unit 1 is at 45% reactor power with plant shutdown in progress
- At 1400 1AY1A "120 VAC vital bus" is deenergized due to a fault
- At 1410, a common mode failure occurred on all four feedwater regulating valves causing all four valves to close
- At 1411, the reactor operator manually tripped the reactor due to all steam generator levels decreasing rapidly
- Current time is 1414 and steam generator levels are at 34% wide range (WR),

Which of the following AMSAC system indication is consistent with the conditions listed above?

- A. AMSAC actuated with the following control room indications:
- Annunciator ALB05E4, "AMSAC TROUBLE" lit
 - BPLP window 4-8, "AMSAC BYPASS LO TURBINE LOAD" lit
- B. AMSAC actuated with the following control room indications:
- Annunciator ALB05E4, "AMSAC TROUBLE" dark

- BPLP window 4-8, "AMSAC BYPASS LO TURBINE LOAD" dark
- C. AMSAC did not actuate with the following control room indications:
- Annunciator ALB05E4, "AMSAC TROUBLE" lit
 - BPLP window 4-8, "AMSAC BYPASS LO TURBINE LOAD" lit
- D. AMSAC did not actuate with the following control room indications:
- Annunciator ALB05E4, "AMSAC TROUBLE" dark
 - BPLP window 4-8, "AMSAC BYPASS LO TURBINE LOAD" dark

C

Ref: LO-LP-28301-05 rev 5, pg 10-12

North Anna 1999 initial exam, modified to fit Vogtle

Answer: C

85. 033AK3.02 002

Unit 1 is approaching POAH during a reactor startup. Intermediate range (IR) channel N-35 begins to drift up much faster than IR N-36.

Which of the following describes the actions the operator should take FIRST in accordance with procedure 18002-C, "Nuclear Instrumentation Malfunction?"

- A. Select another IR channel on NR-45 to ensure a continuous record of actual IR range level.
- B. Suspended all operations involving positive reactivity changes, to stabilize conditions and allow troubleshooting.
- C. Verify dilution valves locked closed as directed by Technical specifications. These could be the cause of the rising channel indications.
- D. Bypass the N-35 signal, it is failing high and should be bypassed prior to reaching the reactor trip setpoint.

B

- a. incorrect - This will be done but it is not the first action that the procedure requires.
- b. correct - immediate operator action
- c. incorrect - performed later in the procedure, only if the tech spec applies.
- d. incorrect - the channel will be bypassed but not the first action per the procedure.

Answer: B

86. W/E12EK1.2 002

The following conditions exist on Unit 2:

- Reactor trip and safety injection occurred
- All steam generators' pressures are decreasing and appear faulted
- All attempts to isolate the steam generators have failed
- All steam generators' levels are < 10% narrow range
- RCS cooldown is >100 degrees in last 60 minute period.

Concerning auxiliary feedwater: procedure 19121-C, "Uncontrolled Depressurization of All Steam Generators," directs the operator to:

- A. reduce AFW flow for each steam generator to zero flow to stop RCS cooldown.
- B. maintain AFW flow at 30 gpm for each steam generator to prevent steam generator dryout while minimizing RCS cooldown.
- C. reduce total AFW flow by 30 gpm to minimize RCS cooldown until narrow range level is >10%.
- D. maintain total AFW flow >570 gpm to prevent entry into 19231-C, "Loss of Secondary Heat Sink".

B

- a. incorrect - flow should not be reduced to zero. This would cause SG dry out
- b. correct - per procedure
- c. incorrect - feeds all SG at 30 gpm to prevent dry out
- d. incorrect - a note in FRP H.1 directs the operator not to perform H.1 if another procedure has the crew reduce flow and the capability for flow still exists.

Answer: B

87. GEN2.2.9 002

Given the following Unit 2 conditions:

- The Unit is in Mode 6
- Fuel off-load is in progress
- RHR Train "A" is in service
- RHR Train "B" is shutdown
- Procedure writer requests that you start RHR Train "B" using his modified SOP that he developed
- He wants to verify the procedure will work before submitting the revision change

What is the correct action to take?

- A. Startup RHR Train "B" using the draft procedure since it is not required to be operational in the current mode.

- B. Verify procedure works on the simulator prior to testing it on actual plant equipment.
- C. The SS verbally concurs that a change of intent has NOT occurred.
- D. Refuse to perform the test since the appropriate safety evaluation and procedure review needs to be completed and reviewed to verify 10CFR50.59 requirements are met.

d

Ref: 10CFR50.59

CFR 43.3

Answer: D

88. 069AA2.02 002

During the performance of procedure 14475, "Containment Integrity Verification - Valves Outside Containment", the operator noted that a valve checked in this surveillance was found misaligned (open).

Which of the following statements provides the correct status of containment integrity and the correct action for restoring containment integrity if lost or the correct reasoning why containment integrity has not been lost?

- A. Containment integrity has NOT been lost; only Engineered Safeguard system penetrations are included as part of containment integrity.
- B. Containment integrity is lost; manual actuation of Containment Ventilation Isolation (CVI) system will restore containment integrity.
- C. Containment integrity is lost; manual isolation of the penetration by the use of a qualified alignment.
- D. Containment integrity has NOT been lost, as long as the piping remains intact containment integrity is maintained.

C

Ref: LO-LP-39210-12-C Containment Systems 3.6,
Technical Specifications 3.6.3 Containment Isolation Valves

CFR 43.5

Answer: C

89. 017A4.02 002

The operating crew is responding to inadequate core cooling with the following conditions:

- Crew is unable to reinitiate ECCS flow
- S/G depressurization proves ineffective due to loss of secondary heat sink

- All core exit thermocouples indicate > 1200 degrees F
- RVLIS indicates < 33% and slowly decreasing
- RCP seal injection startup criteria cannot be established, with all other startup criteria met
- All S/G NR level is > 10%

Based on the above conditions, which of the following operator actions is required?

- A. Do not start RCPs; continue attempts to reestablish ECCS flow.
- B. Do not start RCPs; continue attempts to reestablish a secondary heat sink.
- C. Open Pzr PORVs and block valves, then start RCPs, one at a time.
- D. Start RCPs, one at a time, until core exit thermocouples are < 1200 degrees F.

D

ref:19221

- a. incorrect - RCPs will be started regardless of support conditions
- b. incorrect - RCPs will be started regardless of support conditions
- c. incorrect - PORVs opened only after all RCPs on and incore TC still indicate > 1200 F
- d. correct - RCPs will be started one at a time even if support conditions cannot be established and incore temp indicate >1200 F

Note that the requirement for S/G NR levels > 10% is from SAMGs gained knowledge and Vogtle requires S/G >10% prior to starting RCPs

Watts Bar 9801 exam bank

Answer: D

90. GEN2.2.12 002

A monthly pressure surveillance requirement was performed incorrectly on a SI pump for three consecutive months due to an incorrect dp cell lineup. The most recent test (month 3 retest) was performed correctly and indicated that the results were less than the allowable specification. Adjustments to a valve and retesting resulted in satisfactory results.

Which of the following is correct for this condition?

- A. The component was inoperable for the last three months.
- B. The component was inoperable since the time of discovery and satisfactory retesting was completed.
- C. The component has always been operable since the pump was capable of performing its intended function.

D. The component was inoperable for the last 45 days until satisfactory retesting was completed.

B

A. Results out of specification on proper retest. Although the assumption is the previous 3 results were in error, that does not effect the operability call.

B. This is true regardless of test results being satisfactory.

C. The pump failed a surveillance test and the LCO was not met.

D. This is true for risk exposure determination only.

Answer: B

91. 041GEN2.1.20 002

During a cooldown on Unit 2 the following conditions existed:

- RCS loop Tave: Loop 1: 550 F and decreasing
Loop 2: 548 F and decreasing
Loop 3: 551 F and decreasing
Loop 4: 548 F and decreasing
- Steam header pressure: 1030 psig and decreasing
- Steam Dump Mode Selector switch: STM PRESS MODE
- Steam Dump Controller: Manual, with an output of 30% demand
- "LO LO Tave STM DUMP INTLK P-12" light is on

The operator momentarily places train A and B Steam Dump Bypass Interlock switches to Bypass and then releases them after verifying the "Steam Dump Intlk Bypassed" is illuminated.

What is the status of the Steam Dump valves following the operator's actions?

A. All steam dump valves are fully closed.

B. Only three steam dump valves in group 1 are partially open.

C. Three steam dump valves in group 1 are fully open and steam dump valves in group 2 are fully shut.

D. Three steam dump valves in group 1 are fully open and three steam dump valves in group 2 are partially open.

C

ref:

Byron 2001 Exam

a: incorrect - man controller at 30%

b: incorrect - man controller at 30%

c. correct

d incorrect - group 2 not affected by Steam Dump Bypass Interlock switches

Answer: C

92. 007A1.01 001

Operators are performing operating procedure 13004-2, "Pressurizer Relief Tank Operation," section 4.4.4, "PRT Cooldown Using RCDT Heat Exchanger (Eight hour cooldown)." Annunciator ALB12-F02, "PRZR REL TANK HI/LO Level" alarms.

The RO observes the following PRT parameters:

- PRT temperature 115 F
- PRT level 47%
- PRT pressure 6 psig

Which of the following identifies the correct operator action?

A. Continue in section 4.4.4, "PRT Cooldown Using RCDT Heat Exchanger (Eight hour cooldown)."

B. Raise PRT level by performing section 4.4.2, "Purging the PRT to the WGS and Filling the PRT."

C. Lower PRT level by performing section 4.4.5, "Draining the PRT."

D. Lower the PRT pressure by performing section 4.2.1, "Pressure control of the PRT."

a

OP-13004-2,

Modified TP quest, exam 2001

Provide SOP 13004-2 Prz relief tank operation

A. correct per limitation 2.2.1 of)4.3, "PRT Cooldown Using RCDT Heat Exchanger (Eight hour cooldown)." OP-13004-2

B. is not used for PRT level control, addresses purging the PRT gas space.

C. PRT level is already below the low level setpoint

D. PRT pressure is already in correct range.

Answer: A

93. GEN2.1.10 002

Given the following:

- Thirty (30) minutes ago the power range instruments had been adjusted to be consistent

- with the last Nuclear Instrument calorimetric calibration (14030-1).
- After completing the calibration, the RO returned reactor power to 100%.
- Review of the Nuclear Instrument calorimetric calibration (14030-1) documentation revealed an input error existed which resulted in the calculated MWth being 40 MWth lower than actual.

What action is required for exceeding maximum licensed power of 3565 MWth in this situation?

- A. Reduce power, Recalibrate the power range instruments, monitor average core thermal power using procedure 14915-1, "Special Conditions Surveillance Logs."
- B. Within 1 hour start to place the unit in Mode 3, be in Mode 3 within 7 hours, Mode 4 within 13 hours, and Mode 5 with 37 hours, operation shall not be resumed without NRC approval.
- C. If maximum licensed power of 3565 MWth is violated, restore compliance and be in Mode 3 within 1 hour, operation shall not be resumed without NRC approval.
- D. Recalibrate the power range instruments. No other action required. It is permissible to exceed 3565 MWth by as much as 2% for as long as eight hours.

A

Procedure Power Operation Mode 1 (12004-C), Nuclear Instrumentation Calorimetric Calibration (14030-1), Facility License Unit 1
CFR 43.1

Answer: A

94. GEN2.3.9 001

Given the following conditions:

- Containment purge is requested using the Mini-Purge system for respirable air quality considerations for personnel entry.
- The previous containment purge was stopped and restart delayed for 53 hours.
- The reason for the requested containment purge has not changed.
- The reading on 1-RE-2562-C, Containment Atmosphere Process Air Particulate Monitor has increased by a factor of 2.5 from the reading obtained at the purge sampling time (logged on Data Sheet 1 of 36022-C, "Containment Purge Permitting and Chemistry Monitoring.")

What is the minimum that must be done for restarting the containment purge?

- A. Notify chemistry of the Mini-purge, request that chemistry sample the containment atmosphere and prepare for the gaseous release, and obtain a Containment Gaseous Release Permit.

B. Notify chemistry of the Mini-purge, request that chemistry sample the containment atmosphere and prepare for the gaseous release, and update the current approved Containment Gaseous Release Permit.

C. Notify chemistry of the Mini-purge and obtain the current approved Containment Gaseous Release Permit.

D. With reading on 1-RE-2562-C, Containment Atmosphere Process Air Particulate monitor, increased by a factor of 2.5, restart of the containment purge cannot be permitted without determination of the reason for the increase in the 1-RE-2562-C reading.

C

Ref: 13125-1 Containment Purge System
CFR 43.4

Answer: C

95. 035A4.05 001

Procedure 19002-C, "Natural Circulation Cooldown," is in progress.

- Cooldown rate is 45 F/hr
- 3CDRM fans are running
- All S/Gs are @ 65% narrow range
- RCS subcooling is 75 F
- Pressurizer level is 34%

During the performance of step 4 one of the running CDRM fan fails and can not be restarted. What action is required to maintain natural circulation cooldown?

A. Lower S/G levels to 50% and increase cool down rate to greater than 50 F/hr. Then the first 11 steps of procedure 19002-C, ES-0.2, "Natural Recirculation Cooldown," should be performed before transition to procedure 19003-C, ES-0.3, "Natural Circulation Cooldown With Voids in the Vessel."

B. Adjust S/G levels and increase cool down rate to up to 50 F/hr to raise subcooling to greater than 124 F. Immediately transition to procedure 19003-C, ES-0.3, "Natural Circulation Cooldown With Voids in the Vessel."

C. Maintain S/G levels and cooldown rate. Remain in procedure 19002-C, ES-0.2, "Natural Recirculation Cooldown,"

D. Adjust S/G levels and increase cool down rate to up to 50 F/hr to raise subcooling to greater than 124 F. Transition to procedure 19003-C, ES-0.3, "Natural Circulation Cooldown With Voids in the Vessel" only after subcooling exceeds 124 F and the first 11 steps of procedure 19002-C, ES-0.2, "Natural Circulation Cooldown," are completed.

C

ref: LO-LP-37012

a. incorrect - 19003-C contains actions to continue plant cooldown and depressurization with

RVLIS available to monitor void growth. Natural circulation can continue with S/G levels at 65% NR, 2 CDRM fans running and subcooling @75 F.

- b. With < 2 fans running subcooling is raised to 124 F to prevent voids in reactor vessel head.
- c. correct
- d. with < 2 fans running subcooling is raised to 124 F to prevent voids in reactor vessel head.

Answer: C

96. W/E06GEN2.1.2 001

Which of the following Reactor Vessel Level Indication System (RVLIS) ranges can only be used during natural circulation and to determine an inadequate core cooling condition exists?

- A. Upper
- B. Lower
- C. Full
- D. Dynamic

C

ref:

LP-LO-16701

- a. incorrect - upper can't determine inadequate core cooling
- b. incorrect - lower doesn't exist
- c. correct
- d. incorrect - dynamic needs RCPs running

Answer: C

97. GEN2.3.1 001

Which of the following statements is true regarding visitors exposure control at VEGP ?

- A. They must be escorted by a qualified radiation worker whenever inside the protected area.
- B. They must be escorted by a member of the HP staff whenever inside the RCA.
- C. They require no radiological escort inside the RCA as long as they have an initial and an exit whole body count and are issued a TLD.
- D. They must be escorted by a qualified radiation worker whenever inside the RCA.

D

REF: LO-LP-63920-02-01, 00920-C (bank 215 modified)

Answer: D

98. GEN2.1.29 001

While performing a valve lineup, a valve was found out of position due to a clearance.

Which of the following describes the correct operator actions in accordance with procedure 10000-C, "Conduct of Operations?"

- A. The operator should reference the clearance number in the space provided for initials.
- B. The USS or SSS (C&T) is notified and no further action is required.
- C. The USS or SSS (C&T) must determine if returning the valve to its correct alignment will result in an adverse condition.
- D. The valve may be repositioned by the operator at the time of discovery.

A

- a. correct
- b. incorrect - notification required and then they must determine if the valve should be repositioned
- c. incorrect - supervisor action not operator action
- d. incorrect - the operator must notify supervision prior to repositioning and must not violate a clearance.

Answer: A

99. 009EK1.01 001

Given the following:

- Small break LOCA has occurred.
- Operators have implemented the appropriate EOPs.
- ECCS equipment is operating
- RCS pressure is 1200 psig and decreasing slowly

Which of the following is the primary process that provides initial core cooling during a small break LOCA?

- A. Reflux boiling
- B. Natural circulation
- C. Coolant flow out of the break

D. Pzr liquid phase flashing to steam

B

- a. incorrect - reflux begins to occur late during the accident and contributes a small amount to cooling
- b. correct - natural circulation is the predominant cooling mechanism until inventory begins to become depleted
- c. incorrect - coolant flow out of the break begins to contribute to heat removal later during the accident when system pressure has dropped
- d. incorrect - flashing of the PZR liquid occurs as the system pressure drops but is only significant in that it may hold pressure up somewhat.

Watts bar 9801 exam bank

Answer: B

100. 004K4.08 001

Which of the following explains the bases for controlling the volume control tank hydrogen supply pressure between 15 psig and 20 psig when the plant is at power?

- A. Ensures adequate NPSH for the CCPs if both start simultaneously.
- B. Provides backpressure in CCP miniflow line to prevent excessive flow.
- C. Provides backpressure to the # 2 RCP seals to ensure adequate flow to the #3 seals.
- D. Ensures hydrogen concentration in the RCS is controlled at 25-35 cc/kg for oxygen scavenging.

D

ref: licensee's lesson plan on CVCS (chapter 5A)

- a. incorrect - minimum level in the VCT ensures adequate NPSH
- b. incorrect - orifices are provided in the miniflow lines to prevent excessive flow
- c. incorrect - actually provides backpressure to #1 seals
- d. correct - partial pressure of hydrogen gas in the VCT controls hydrogen concentration in the RCS.

Watts Bar 9801 exam bank

Answer: D

101. 061K6.02 001

Which of the following would be a consequence of flooding Unit 2 "A" Auxiliary Feedwater Pump Room?

A. Compromised shutdown capability of plant due to AFW flow inadequate to remove decay heat.

B. Safe shutdown capability not compromised because AFW flow capability is adequate to remove decay heat.

C. Will cause 2 trains of AFW to become inoperable.

D. Would require to be in Mode 4 in 6 hours in order to comply with technical specifications.

B

ref: LO-LP-61102

a. incorrect - TDAFW and single MDAFW is sufficient

b. correct

c. incorrect - each room separated; flood one room does not automatically effect another room

d. incorrect - technical specifications allow more time for just one MDAFW pump inoperable.

Vogtle exam bank

Answer: B

102. 026K4.01 001

Unit is at 100% power. A large break LOCA occurs.

Which of the following describes the operation of the Containment Spray system upon receipt of a containment spray signal?

A. The K-643 relay will energize, opening the containment spray suction header isolation valves.

B. The K-644 relay will energize, opening the containment spray suction header isolation valves.

C. The K-643 relay will energize, opening the containment spray discharge header isolation valves.

D. The K-644 relay will energize, opening the containment spray discharge header isolation valves.

D

LO-LP-15101

a. incorrect - K-643 relay will energize, but starts the CS pumps, does not open the suction valves (normally open)

b. incorrect - K-644 does energize but opens the discharge valves

c. incorrect - K-643 relay will energize, but starts the CS pumps, does not send a signal to the discharge valves.

d. correct,

Answer: D

103. GEN2.3.11 001

Given the following:

- Unit 1 is responding to a LOCA
- RCS dose equivalent Iodine-131 activity is 290 microcuries per gram

Which of the following describes the method used to reduce the iodine-131 concentration in the containment atmosphere and reduce the potential for inadvertent release of iodine from containment?

- A. E-1 directs the venting of the containment to reduce the elemental iodine concentration to within the Tech Spec limits.
- B. E-1 directs the purging of the containment to reduce the elemental iodine concentration to within the Tech Spec limits.
- C. Containment spray water from the RWST will remove elemental iodine from the containment atmosphere.
- D. Containment spray water when in the recirculation mode will remove elemental iodine from the containment atmosphere.

D

ref:

- a. incorrect - E-1 doesn't contain this guidance and there is no Tech Spec limit on containment iodine
- b. incorrect - E-1 doesn't contain this and there is no Tech Spec limit on containment iodine
- c. incorrect - containment spray water from RWST will remove the iodine from the atmosphere but does nothing to keep it in solution
- d. correct - iodine is removed and kept in solution by sodium tetraborate.

SQNNRCEX.bnk

Answer: D

104. GEN2.1.23 001

Per procedure 19100-C, "Loss of All AC Power," certain engineered safeguards equipment control switches are placed in Pull-To-Lock positions.

This switch alignment prevents an uncontrolled.....

- A. ...depressurization of the RCS.
- B. ...start of large loads on safeguards AC buses.

- C. ...cooldown of the RCS resulting in an inadvertent reactor restart.
- D. ...use of borated water that may be required for long term cooldown.

B

ref:19100-C, wog ref on loss of AC

- a. incorrect - per wog
- b. correct
- c. incorrect - per wog
- d. incorrect - per wog

Answer: B

105. GEN2.2.13 001

During the performance of a clearance, a manual valve is required to be tagged open. The SO performing the clearance discovers the valve is already tagged closed by a different clearance.

Which of the following actions should the SO take?

- A. Leave the valve as is and markup the clearance sheet and new tag to reflect the valve's actual position.
- B. Immediately contact the USS, who will determine the position that affords the highest degree of personnel protection.
- C. Remove the old tag, reposition the valve and hang the new tag.
- D. Skip that valve, continue with the clearance and notify the USS on completion.

B

ref: lo-lp-63304

- a. incorrect - the procedure does not allow the operator to reassign clearance positions
- b. correct
- c. incorrect - the procedure does not allow tags to be removed without the correct clearance paperwork
- d. incorrect - the procedure requires the tags to be hung in designated sequence.

Answer: B

106. 074EK1.03 001

The operating crew entered procedure 19221-C, FR-C.1, "Response to Inadequate Core Cooling." All attempts to establish high pressure safety injection flow were unsuccessful. RVLIS full range level is 28% and decreasing slowly, core exit thermocouples are reading 820 deg F and slowly increasing. Reactor coolant pumps are secured.

Which of the following would be the next step to mitigating the core cooling challenge?

A. Enter the severe accident management guidelines (SAMGs) for guidance on RCP restart to initiate RCS depressurization.

B. Open available Pzr PORVs to depressurize RCS down to the SI accumulator and SI injection pressures.

C. Depressurize all intact steam generators using steam dumps or ARVs to depressurize RCS down to the SI accumulator and SI injection pressures.

D. Restart one RCP in a loop with an intact steam generator to provide forced two-phase flow for initiating RCS depressurization.

C

ref: 19221-C FR-C.1, Response to Inadequate Core Cooling, LO-LP-37061-09,

a. incorrect - does not meet the 1200 deg F transition criteria

b. incorrect - action results in a loss of RCS inventory to accomplish depressurization

c. correct

d. incorrect - RCP is eventually started but it is not next step after high pressure SI is not successful

vogtle 1999 exam

Answer: C

107. 015GEN2.1.32 001

Which of the following describes when the Test/Status control switch for N36 at the optical isolator assembly is used and why?

A. Used during calibration to isolate N36 from the other channel to prevent a reactor trip.

B. Used in "APP R" position during a fire that causes a control room evacuation, to prevent a loss of extended range indication at Shutdown Panel B.

C. Used during a fire, "APP R" position is selected to prevent a loss of extended range indication in the control room.

D. Used during calibration of N36 when the unit is shutdown, changing the position of this switch at power will cause a loss of N36.

B

ref: 13501-2, 18038-2

a. incorrect - doesn't isolate N36

b. correct

c. incorrect - doesn't prevent a loss of extended range in CR

d. incorrect - changing the position does not cause a loss of power

Answer: B

108. 061A3.01 001

The reactor is in hot standby (Mode 3) when a loss of power to 1BY1B occurs. As a result, AFW flow indication for #2 and #3 steam generators is not available on the main control board.

How can the operator determine AFW flow?

- A. Positioning the selector switch for feedflow to an unaffected channel.
- B. Taking the square of the delta P between the AFW discharge pressure and the pressure of the respective steam generator.
- C. Reading flow on the PSMS.
- D. There is no way to determine AFW flow in the control room under these conditions.

C

ref: 18021-C

- a. incorrect - not associated with AFW flow indication
- b. incorrect - this will not calculate flow
- c. correct
- d. incorrect - see above

Answer: C

109. GEN2.4.19 001

Within the Emergency Operating Procedures, multiple action steps which are sequence sensitive within a single step are designated by which of the following formats?

- A. Each sub-step preceded by a bullet.
- B. Numeric labeling of sub-steps.
- C. Alphabetical labeling of sub-steps.
- D. High level step preceded by caution statement, "The following sub-steps must be performed in order."

C

Ref; 100012-C Section 5.1.3

- a. True when not sequence sensitive.
- b. Used only for High Level steps.

- c. Correct
- d. Fabricated distractor
Answer: C

110. 003K1.08 001

Given the following conditions on Unit 1:

- A steam generator tube rupture has occurred, and procedure 19030-C," E-3 Steam Generator Tube Rupture" is being performed
- All ESF actuations worked properly and ECCS is injecting
- Pressurizer level is 10% and falling slowly
- RCS pressure is 1350 psig and falling slowly
- S/G #1 level is 80% NR and rising slowly
- S/G #2,3, & 4 levels are 5% NR and rising slowly
- RCS Tavg is 558 degrees F and decreasing slowly

Which one of the following correctly describes the next action to be taken?

- A. Dump steam at the maximum rate to 300 psig to allow the accumulators to inject.
- B. Isolate S/G #1 to minimize RCS cooldown.
- C. Stop all RCPs.
- D. Stabilize intact S/G level at current level to minimize RCS cooldown.

C
Ref:O/LO-LP-37311-04, O/WOG-ERG background

Licensee's exam bank

Answer: C

111. 086A2.02 001

Which of the following identifies all the fire protection pumps that will be running if system pressure suddenly drops to 90 psig?

- A. both jockey pumps, and diesel-driven fire pump #1
- B. one jockey pump, diesel-driven fire pump #1, and diesel-driven fire pump #2

- C. both jockey pumps, and electric-driven fire pump
- D. one jockey pump, electric-driven fire pump, and diesel-driven fire pump #1

D

LO-LP-43101

- a. incorrect - jockey pumps do not auto start, only one runs at a time
- b. incorrect - fire pump #2 starts at 85 psig
- c. incorrect - jockey pumps do not auto start, only one runs at a time
- d. correct -

Answer: D

112. GEN2.4.34 001

The operations personnel are being evacuated because of fire in the control room and dispatched to their assigned locations per procedure 18038-1, "Operation from the Remote Shutdown Panels".

How do the Reactor Operator and BOP Operator know which instruments are fire event qualified instrumentation and where are fire event qualified instrumentation located?

- A. Fire event qualified instrumentation is located on shutdown panel A and has a red bar at the base of the instrument.
- B. Fire event qualified instrumentation is located on shutdown panel B and has a red bar at the base of the instrument.
- C. Fire event qualified instrumentation is located on shutdown panel A and has an orange dot at the top of the instrument.
- D. Fire event qualified instrumentation is located on shutdown panel B and has an orange dot at the top of the instrument.

B

Ref: 18038-1 "Operation from the Remote Shutdown Panels", LO-LP-60327-06-C,

LO-LP-60328-09-C

CFR 43.5

Answer: B

113. 006K5.09 001

Which of the following describes why the discharge of the safety injection pumps are realigned 11 hours after a LOCA?

- A. This is done to prevent loss of safety injection pump NPSH. The safety injection pumps then take suction from the containment sump and run in hot leg recirc.

B. This is done to prevent the possibility of boron precipitation due to concentrating effects experienced during a hot leg break. The safety injection pumps are then run in hot leg recirc.

C. This is done to prevent loss of safety injection pump NPSH. The safety injection pumps then take suction from the containment sump and run in cold leg recirc.

D. This is done to prevent the possibility of born precipitation due to concentrating effects experienced during a hot leg break. The safety injection pumps are then run in cold leg recirc.

B

ref: LP-LO-13301

a. incorrect - done to prevent boron precipitation due to concentrating effect experienced in LOCA

b. correct

c. incorrect - done to prevent boron precipitation due to concentrating effect experienced in LOCA

d.incorrect - safety injection then aligned to hot leg recirc.

Answer: B

114. 001K5.49 001

Which of the following explains why rod insertion limits increase as reactor power increases from 0% to 100%?

A. As power increases, moderator temperature coefficient decreases.

B. As power increases, flux shifts more to the top of the core.

C. As power increases, control rod worth decreases.

D. As power increases, power defect increases.

D

ref:

a. incorrect - MTC actually increases as power increases

b. incorrect - flux will shift but does not cause insertion limits to change

c. incorrect - as power increases control rod worth actually increases

d. correct - power defect increases as power increases mostly due to MTC

Watts 9801 exam bank

Answer: D

115. GEN2.4.39 001

A Site Area Emergency has been declared 12 minutes after the reactor tripped. Electrical transients have deenergized the 480 volt main feeder bus ANB11. Emergency diesel generators did not start.

Considering the order of usage, which one of the following SHOULD be used to notify state and local officials of the event?

- A. ENN
- B. Backup ENN using Commercial telephones
- C. Burke County and SRS radios in the TSC
- D. VEGP Cellular

A

ref:LO-LP-40101-22-05, Q-28

- A. Normal power still available and primary method of communication
- B. 1st backup
- C. 2nd backup
- d. Not used unless nothing else available

Answer: A

116. GEN2.3.2 002

Which of the following meets the intent of VEGP ALARA program?

- A. Minimize dose to plant workers using briefings, mockups, and pre-planning.
- B. Minimize dose to members of the public only. Plant workers are trained radiation workers and have higher dose limits.
- C. Minimize use of respirators in airborne areas to prevent generation of radioactive waste.
- D. Always use lead shielding to keep gamma dose rates to workers as low as obtainable.

A

licensee rewrite recommendation

Answer: A

117. 071K5.04 001

In the Waste Gas Catalytic Hydrogen Recombiner, _____ is controlled in response to _____, which is measured at the _____.

- A. oxygen supply; hydrogen concentration; phase separator outlet
- B. hydrogen concentration; oxygen concentration; phase separator inlet
- C. hydrogen concentration; waste gas input flow rate; preheater inlet
- D. oxygen concentration; hydrogen flow rate; preheater inlet

A

Ref: LO-LP-46101

licensee's exam bank

Answer: A

118. 065AGEN2.1.27 001

Instrument air has been lost on Unit 1. The reactor has been tripped and procedure 18028-C, "Loss of Instrument Air," is being used to correct the problem and stabilize the plant in Mode 3.

Which of the following is true about Unit 1 conditions?

- A. VCT level will increase due to FV-110A, borate valve, failing open.
- B. PORVs will operate on high pressurizer pressure.
- C. Excess letdown must be used to control pressurizer level due to loss of normal letdown.
- D. ACCW to the RCP thermal barriers isolated on loss of air.

B

ref: proc 18021-C, OM/S 3.7.5

BANK question from ???

Answer: B

119. 068AK3.09 001

Given the following conditions:

- Operators are performing AOP 18038-1, "Operation From Remote Shutdown Panels"
- Crew is ready to transfer controls back to the main control room.

Which of the following describes the correct method of transferring controls to the main control room?

A. Establish plant conditions to allow modulating components to be full open or full closed then transfer to prevent sudden changes in the process parameters.

B. Place remote shutdown panel and main control room controllers in manual, then transfer; Eagle 21 control will match the two controllers' outputs to prevent sudden changes in the process parameters.

C. Place main control room controller in automatic to allow it to automatically track the corresponding shutdown panel controller so a bumpless transfer occurs.

D. Place the main control room controller in manual and adjust the output to match the output of the shutdown panel controller then transfer to prevent sudden changes in the process parameters.

D

Ref: AOP 18038-1, rev 26, caution prior to step 55

- a. incorrect - this may cause significant parameter swings if controllers are mismatched.
- b. incorrect - full open or full closed would not ensure the controller outputs were matched.
- c. incorrect - outputs must be manually adjusted to match the operator.
- d. correct - this action will ensure the outputs match and prevent process swing.

modified from Watts Bar 9801 exam bank question

Answer: D

120. GEN2.2.21 001

Following maintenance, a system is considered available when it is....

A. ...capable of performing its design function, but the equipment does not meet Technical Specification operability requirements.

B. ...capable of performing its design function, but the equipment's hold tags have not been cleared.

C. ...incapable of performing its design function, but the equipment meets Technical Specification operability requirements.

D. ...in a condition which would limit its immediate use by operators from the control room, but the equipment meets Technical Specification operability requirements.

A

ref: LO-LP-63354, Conduct of Maintenance, section II, learning objective F.(1)

Per the lesson plan..."Out Of Service Time: The total hours a component or system is unavailable for use is termed OUT OF SERVICE HOURS. The component will be considered unavailable if HOLD tagged, disassembled, or in any condition which would limit its immediate use by operators in the control room. A component or system is considered available for use when capable of performing its design function. The equipment does not necessarily have to meet technical specification operability requirements to be considered available.

Answer: A

121. 059GEN2.2.3 001

"MFW LOOP1 MFIV ACCUM GAS LO PRESS" is in alarm, an operator is dispatched to investigate and determine the cause of the alarm.

Which of the following describes the indications that the operator will have locally to determine the cause of the alarm?

A. On Unit 1, the operator could locally check N2 pressure, visual indication of a hydraulic leak, or audible indications of a N2 leak.

B. On Unit 1, the operator could locally check air pressure, visual indications of a hydraulic leak or audible indications of an system air leak.

C. On Unit 2, the operator could locally check N2 pressure, visual indication of a hydraulic leak, or audible indications of a N2 leak.

D. On Unit 2, the operator could locally check air pressure, visual indications of a hydraulic leak or audible indications of an system air leak.

C

ref:LO-LP-61300-06, 17016 window A06

- a. incorrect - unit 1 does not have local N2 pressure indication
- b. incorrect - nitrogen operates the valve not air
- c. correct
- d. incorrect - nitrogen operates the valve not air

REWROTE AS OO4GEN2.2.3

Answer: C

122. GEN2.3.11 002

Given the following:

- Unit 1 is responding to a LOCA
- RCS dose equivalent Iodine-131 activity is 290 microcuries per gram

Which of the following describes the method used to reduce the iodine-131 concentration in the containment atmosphere and reduce the potential for inadvertent release of iodine from containment?

A. E-1 directs the venting of the containment to reduce the elemental iodine concentration to within the Tech Spec limits.

B. E-1 directs the purging of the containment to reduce the elemental iodine concentration to within the Tech Spec limits.

C. Containment spray water from the RWST will remove elemental iodine from the containment atmosphere and maintain the iodine in solution.

D. Containment spray water when in the recirculation mode will remove elemental iodine from the containment atmosphere and maintain the iodine in solution.

D

ref:

a. incorrect - E-1 doesn't contain this guidance and there is no Tech Spec limit on containment iodine

b. incorrect - E-1 doesn't contain this and there is no Tech Spec limit on containment iodine

c. incorrect - containment spray water from RWST will remove the iodine from the atmosphere but does nothing to keep it in solution

d. correct - iodine is removed and kept in solution by sodium tetraborate.

SQNNRCEX.bnk

Answer: D

123. 067AK3.04 001

When evacuating the control room due to a control room fire, procedure 18038-1, "Operation From Remote Shutdown Panels," which of the following is performed prior to leaving the control room?

A. Ensure the PRZR PORVs are closed and ensure the block valve hand switches are in the open position.

B. Ensure CCP suction is aligned to the VCT.

C. Ensure motor driven auxiliary feedwater pump is running and trip RCPs #1 and #4.

D. Ensure feedwater isolation and main steam isolation signals are reset.

C

ref: 18038-1 step 2

a. incorrect - place block valve handswitches in the closed position

b. incorrect - align CCP suction to RWST

c. correct

d. incorrect - the signal resets are not addressed, the main feedwater is isolated.

Answer: C

124. 002GEN2.1.2 001

Given the following:

- Unit 1 is in Mode 5, post-refueling
- Unit 1 is preparing for a vacuum refill of the RCS following a drain down.

Which of the following identifies the two (2) parameters that are used to determine the maximum allowable vacuum to be drawn on the RCS?

- A. charging flow rate; PRT level
- B. charging flow rate; RCS temperature
- C. RHR flowrate; PRT level
- D. RHR flowrate; RCS temperature

D

ref: procedure 28917-C

references not available at this time

Answer: D

125. 051GEN2.2.21 001

You are the shift manager, you have been informed that following maintenance, all channels of the Iodine and Particulate Sampler (RE 12839A & RE12839B) were set more conservatively than the requirements of the ODCM. There is a release in progress past this monitor. What are the required actions per the ODCM?

Effluent release through this pathway may continue...

- A. ...provided the sample flow rate is estimated once per four hours.
- B. ...provided grab samples are taken at least once every 12 hours and these samples are analyzed for radioactivity within 24 hrs.
- C. ...provided that samples are continuously collected with auxiliary sampling equipment.
- D. ...without any further actions.

D

there are no required actions if the monitor is set conservative direction. All the distractors are for inoperable monitors

Answer: D

126. 025AA2.06 001

According to TS LCO 3.4.12, which of the following defines an operable COPS:

A. All safety injection pumps capable of injecting into the RCS and the accumulators isolated and two power operated relief valves (PORVS) with lift settings within the limits specified in the PTLR.

B. All safety injection pumps capable of injecting into the RCS and the accumulators isolated and two RHR suction relief valves with setpoints greater than or equal to 440 psig and less than or equal to 460 psig.

C. All safety injection pumps incapable of injecting into the RCS, and the accumulators isolated, and one power operated relief valve (PORV) with a lift setting within the limits specified in the PTLR and one RHR suction relief valve with setpoints greater than or equal to 440 psig and less than or equal to 460 psig.

D. All safety injection pumps incapable of injecting into the RCS, and the accumulators isolated, and one power operated relief valve (PORV) with a lift setting within the limits specified in the PTLR or two RHR suction relief valves with setpoints less than or equal to 440 psig or greater than or equal to 460 psig.

C

ref: TS 3.4.12 Cold Overpressure Protection Systems (COPS)
per TS

Answer: C

127. GEN2.3.2 001

The maximum allowable total body dose to any member of the public due to all releases of radiation due to operation of plant Vogtle is :

A. 5 mrem

B. 25 mrem

C. 75 mrem

D. 100 mrem

B

Ref: FG/TS Bank 350

Answer: B

128. 011GEN2.4.8 001

Unit 1 experienced a large LOCA within containment. RWST level is decreasing rapidly. Which of the following is the highest RWST level that REQUIRES operators to transfer to procedure 19013-C, ES1.3 "Transfer to Cold Leg Recirculation?"

- A. 301,500 gallons (45%)
- B. 261,300 gallons (39%)
- C. 67,000 gallons (10%)
- D. 60,300 gallons (9%)

B

ref:19013-C

Answer: B

129. 029K1.04 001

Which of the following stops the Containment purge supply and exhaust fans if a purge is in progress and a large break LOCA occurs?

- A. A containment ventilation isolation (CVI) signal.
- B. A manual stop only, using the fan control switch.
- C. A high containment pressure safety injection signal.
- D. A containment isolation phase A (CIA) signal.

B

ref: need to validate

Answer: B

130. 063GEN2.2.22 001

Which of the following describes the minimum required electrical lineup to a Vital 125 volt DC bus in order for the DC bus to fully comply with its LCO for operability? (Do not consider operability of the associated 120 VAC vital bus)

- A. One charger and the DC bus battery bank, its associated 120 VAC vital bus inverter for availability of backfeed from the 120 VAC bus through the inverter to the DC bus.
- B. Two chargers and the DC bus battery bank.
- C. One charger and the DC bus battery bank.

D. Two chargers alone (without a battery bank) meets the single failure criteria.

C

Vogtle exam bank

Answer: C

131. 059AA1.03 001

Unit 2 is performing a liquid effluent release of waste monitor tank 9. Which of the following would require immediate termination of the release in progress ?

- A. High dilution flow rate indication.
- B. Blowdown sump dilution flow of 10,120 gpm.
- C. High radiation indication on 2-RE-0016.
- D. 2-RE-0018 reads less than expected.

B

Ref: procedure 13216-2 (taken from bank NRC-14 #65)

Answer: B

132. 072K1.01 001

A high alarm received by which of the following radiation detectors will result in a containment ventilation isolation?

- A. RE-2562A, containment atmosphere (particulate) detector
- B. RE-0005, containment high range area rad monitor
- C. RE-12442, Plant vent effluent monitor
- D. RE-0003, Containment area low range detector

D

ref:

lo-lp-32101-120-04,

licensee bank Q305

Answer: D

133. W/E02AGEN2.1.20 001

Unit 1 has experienced a Small Break LOCA. Containment pressure is 0.5 psig. Which of the following conditions would NOT meet SI termination criteria in accordance with procedure 19010-C, "Loss of Reactor or secondary Coolant?"

- A. Pressurizer Level 35%.
- B. RCS Subcooling 21 deg F.
- C. RCS pressure 1210 psig and rising.
- D. SG NR levels: A-25% B-15% C-15% D-12%

B

Ref: 19010-C
modified from INPO Bank

- a. Must be > 9%.
- b. Must be 24 deg F or greater. (only 21deg)
- c. Must be stable or rising.
- d. Must be >10%.

Answer: B

134. 008K3.01 001

Which of the following is cooled by CCW?

- A. RHR pump seal cooler
- B. RCP thermal barrier cooler
- C. RCDT heat exchanger
- D. Excess letdown heat exchanger

A

ref:lo-1p-10101, fig 10c-1 and 10b-1

Answer: A

135. 012K2.01 001

Which of the following Reactor Coolant Pump breaker and Reactor Trip breaker conditions will occur as a result of a Reactor Coolant Pump underfrequency condition on two (2) buses?

Assume Reactor thermal power is 18%.

- A. RCP Bkr is OPEN, Reactor Trip Bkr is CLOSED
- B. RCP Bkr is CLOSED, Reactor Trip Bkr is OPEN
- C. RCP Bkr is OPEN, Reactor Trip Bkr is OPEN
- D. RCP Bkr is CLOSED, Reactor Trip Bkr is CLOSED

C

ref: LO-LP-28102

Answer: C

136. 028A4.01 001

Identify the components/system NOT serviced by the hydrogen gas system.

- A. Main Generator
- B. Volume Control Tank (VCT)
- C. Containment Hydrogen Recombiners
- D. Reactor Coolant Drain Tank (RCDT)

C

Aux. Gas System, lo-lp-52101-10-c, LO#1

Answer: C

137. 022A1.02 001

What is the MINIMUM cooling equipment necessary to maintain post accident containment pressure below the design value on a design basis LOCA?

- A. Six containment cooling fans and one train of containment spray.
- B. Four containment cooling fans and one train of containment spray.
- C. Three containment cooling fans and two trains of containment spray.
- D. Four containment cooling fans and two trains of containment spray.

B

ref: TS bases 3.6.6

Requires one train of cooling fans (four fans) and one train of containment spray.

Answer: B

138. 054AK1.02 001

Which one of the following is the reason why AFW flow rate is procedurally restricted to less than 100 gpm when recovering a steam generator level if the level has fallen below 9% wide range indication?

- A. Ensure SG pressure transient condition does not occur which could result in an uncontrolled release through a safety valve.
- B. Ensure pressurizer pressure transient does not result in level transient that would actuate SI.
- C. Minimize thermal stress conditions on steam generator components.
- D. Minimize RCS cooldown rate to prevent an inadvertent restart accident.

C

wrg background documents, LO-LP-37051-C

- a. incorrect - AFW flow will cause SG pressure to drop
- b. incorrect - pressurizer level does not initiate SI
- c. correct - per bases document
- d. incorrect - AFW flow itself insufficient

TP 2001 exam bank

Answer: C

139. 064K2.03 001

According to procedure 13145-1, "Diesel Generator Operation," train A Diesel Generator Emergency Start is initiated by which of the following?

- A. Fast Start of Train "A" Diesel Generator from the Control Room.
- B. Slow Start of Train "A" Diesel Generator from the Control Room.
- C. Local Emergency Startup of Train "A" Diesel Generator with the Local/Remote switch 1-HS-4516 in LOCAL.

D. Start of Train "A" Diesel Generator from the manual break-glass station at the Engine Control Panel.

D

ref: LO-LP-11201

DG emergency starts are initiated by closure of the Train "A" or "B" ESF SI contacts, loss of power, or operation of the manual break glass station at the engine control panel.

DG will not accept an emergency start signal from the control room if any of the following condition exists: local/switch 1-HS-4516 (4517) at PDG1 (pdg3) is in LOCAL

Answer: D

140. 008AK3.04 001

A pressurizer safety valve has stuck open and operators have implemented procedure 19010-C, "Loss of Reactor or Secondary Coolant." In this situation, which of the statements below indicates the bases for tripping the RCPs if RCS pressure decreases to 1300 psig and safety injection flow has been established?

A. To further decrease RCS pressure, enhancing ESF systems ability to inject borated liquid into RCS.

B. Prevent physical damage to RCPs and fuel assemblies due to stresses associated with pumping a two-phase mixture.

C. Prevent damage to the RCP and RCP seal package due to possibility of excessive pump cavitation.

D. Prevent excessive depletion of RCS inventory through a small break leading to severe core uncover if the RCPs were later tripped.

D

ref: 19010-C and WOG

a incorrect - per lesson plan

b. incorrect - per lesson plan

c. incorrect - per lesson plan

d. correct - per lesson plan and wog

Answer: D

141. 061K3.02 001

Given the following:

- Unit 1 is operating at 100% power.
- 1CD1 deenergizes due to a fault on the bus.
- A short time after 1CD1 deenergized a Loss of All AC Power occurred.

Which of the following describes how operations of the TDAFW pump will be affected?

- A. The TDAFW pump will overspeed due to the loss of power to the governor differential pressure controller.
- B. The mechanical overspeed trip device will not be able to be reset due to loss of power to the reset solenoid.
- C. The TDAFW pump will not start and run from QMCB, so it will have to be manually operated at the pump.
- D. The TDAFW pump will operate normally due to the backup inputs from the 480V power supplies.

C

ref: LO-LP-20101

- a. incorrect - governor not electrical
- b. incorrect - mechanical overspeed is not reset electrically
- c. correct
- d. incorrect - 480 V does not supply TDAFW backup power

Vogtle exam bank

Answer: C

142. 103A3.01 001

Which of the following signals will cause HV-9378, Instrument Air to Containment isolation valve, to CLOSE?

- A. Containment Pressure at 4 psig
- B. Containment Radiation Monitor RE-003 in high alarm
- C. Instrument Air header pressure of 70 psig
- D. Containment Atmosphere Radiation Monitor RE-2562 in high alarm

A

ref: P&ID 1X4DB186-1

Q52 NRC bank

Answer: A

143. W/E03GEN2.1.32 001

Procedure 19002-C, "ES-0.2 Natural Circulation Cooldown" directs chemistry to sample boron concentration from four (4) locations. Why is the pressurizer sample for "Information Only" and not used in the shutdown margin and Keff calculations?

A. There are no pressure reduction valves installed in the pressurizer sample line which could result in backleakage into the sample vessels and cause erroneous results.

B. The pressurizer sample line does not have an installed sample cooler to allow drawing samples under all plant conditions.

C. Reactor coolant surges into and out of the pressurizer due to events that required entry into Procedure 19002-C would result in boron concentration to be the same at all four locations.

D. Boron concentration is not expected to change due to the lack of mixing in the pressurizer.

D

Ref: 19002-C ES-0.2 Natural Circulation Cooldown
CFR 43.2

Answer: D

144. 006K5.09 002

Which of the following describes why the discharge of the safety injection pumps are realigned 7.5 hours after a LOCA?

A. This is done to prevent loss of safety injection pump NPSH. The safety injection pumps then take suction from the containment sump and run in hot leg recirc.

B. This is done to prevent the possibility of boron precipitation due to concentrating effects experienced during a cold leg break. The safety injection pumps are then run in hot leg recirc.

C. This is done to prevent loss of safety injection pump NPSH. The safety injection pumps then take suction from the containment sump and run in cold leg recirc.

D. This is done to prevent the possibility of born precipitation due to concentrating effects experienced during a cold leg break. The safety injection pumps are then run in cold leg recirc.

B

ref: LP-LO-13301

a. incorrect - done to prevent boron precipitation due to concentrating effect experienced in LOCA

b. correct

c. incorrect - done to prevent boron precipitation due to concentrating effect experienced in LOCA

d.incorrect - safety injection then aligned to hot leg recirc.

Answer: B

145. 004K4.08 002

Which of the following explains the bases for controlling the volume control tank hydrogen supply pressure between 15 psig and 20 psig when the plant is at power?

- A. Ensures adequate NPSH for the CCPs if both start simultaneously.
- B. Provides backpressure in CCP miniflow line to prevent excessive flow.
- C. Provides backpressure to the # 2 RCP seals to ensure adequate flow to the #3 seals.
- D. Ensures hydrogen concentration in the RCS is controlled for oxygen scavenging.

D

ref: licensee's lesson plan on CVCS (chapter 5A)

a. incorrect - minimum level in the VCT ensures adequate NPSH

b. incorrect - orifices are provided in the miniflow lines to prevent excessive flow

c. incorrect - actually provides backpressure to #1 seals

d. correct - partial pressure of hydrogen gas in the VCT controls hydrogen concentration in the RCS.

Watts Bar 9801 exam bank

Answer: D

146. 009EK1.01 002

Given the following:

- Small break LOCA has occurred.
- Operators have implemented the appropriate EOPs.
- All RCPs were stopped
- ECCS equipment is operating
- RCS pressure is 1700 psig and decreasing slowly

Which of the following is the primary process that provides initial core cooling during a small break LOCA?

A. Reflux boiling

- B. Natural circulation
- C. Coolant flow out of the break
- D. Pzr liquid phase flashing to steam

B

- a. incorrect - reflux begins to occur late during the accident and contributes a small amount to cooling
- b. correct - natural circulation is the predominant cooling mechanism until inventory begins to become depleted
- c. incorrect - coolant flow out of the break begins to contribute to heat removal later during the accident when system pressure has dropped
- d. incorrect - flashing of the PZR liquid occurs as the system pressure drops but is only significant in that it may hold pressure up somewhat.

Watts bar 9801exam bank

Answer: B

147. 014A4.04 001

Which of the following describes the circuits/components that will be reset by the Zero Reset switch in the rod control logic cabinet?

- A. QMCB group step counters, Bank overlap unit, Memory and alarm circuits, Pulse to analog converter.
- B. Bank overlap unit, Memory and alarm circuits, Pulse to analog converter, Master cyclor.
- C. Memory and alarm circuits, Pulse to analog converter, Master cyclor, QMCB group step counters.
- D. Pulse to analog converter, Master cyclor, QMCB group step counters, Bank overlap unit.

B

- a. incorrect - zero switch does not reset the group counters
- b. correct
- c. incorrect - zero switch does not reset the group counters
- d. incorrect - zero switch does not reset the group counters

Answer: B

148. 004GEN2.2.3 001

Which of the following accurately describes the difference between Unit 1 and Unit 2 Chemical Volume and Control systems (CVCS)?

- A. Unit 1 does not have the BIT installed.
- B. Unit 2 does not have the BIT installed .
- C. Unit 1 has the BIT installed but the BIT inlet valves (HV-8803A/B) are removed.
- D. Unit 2 has the BIT installed but the BIT inlet valves (HV-8803A/B) are removed.

B

Licensee rewrite

Answer: B

149. W/E11EK2.2 002

Given the following:

- Unit 1 was at 100% power when a primary LOCA occurred
- The crew transitioned from 19012-C, "Post LOCA Cooldown and Depressurization" to 19013-C, "Transfer to Cold Leg Recirculation" when RWST level reached 39%
- RCS pressure is 1700 psig
- all RCPs are running
- Pressurizer level is 2%
- RCS subcooling is 39 degrees

Which of the following is correct concerning the final alignment of ECCS after the completion of 19013-C?

- A. The SIPs will be stopped because their miniflow to the RWST is isolated. Both RHRPs and CCPs will continue to run.
- B. The SIPs will be stopped because their miniflow to the RWST is isolated. Since RHRP "B" supplies a suction for the SIPs it will also be shutdown. RHRP "A" and both CCPs will continue to run.
- C. Both SIPs will be stopped because the core is being cooled by injection flow from the RHRPs and the CCPs.
- D. All RHRPs, SIPs, and CCPs will continue to run until the RWST level reaches the "RWST EMPTY LEVEL" alarm setpoint of 10%.

A

Ref: O/LO-LP-37111-04, O/WOG-ERG Background
from licensee's exam bank

Answer: A

150. 039A3.02 001

Unit 1 is at 75% power and holding for maintenance. It has been determined that the "B" MSR is required to be removed from service for maintenance.

Which of the following describes the correct method for removal and isolation of the "B" MSR?

- A. The "B" and "A" MSRs should be removed from service and isolated.
- B. The "B" and "C" MSRs should be removed from service and isolated.
- C. The "B" and "D" MSRs should be removed from service and isolated.
- D. Only the "B" MSR should be removed from service and isolated.

C

ref: LO-LP-30102, 13800-1

- a. incorrect - 13800-1 contains a note that states anytime an MSR is removed at power, that the MSR across from it should also be removed. "B" and "D" are symmetrically across from each other.
- b. incorrect - 13800-1 contains a note that states anytime an MSR is removed at power, that the MSR across from it should also be removed. "B" and "D" are symmetrically across from each other.
- c. correct - 13800-1 contains a note that states anytime an MSR is removed at power, that the MSR across from it should also be removed. "B" and "D" are symmetrically across from each other.
- d. incorrect - 13800-1 contains a note that states anytime an MSR is removed at power, that the MSR across from it should also be removed. "B" and "D" are symmetrically across from each other.

Answer: C

151. 012K5.02 001

Which of the following design features or procedural guidance is to prevent exceeding power density limits while recovering a misaligned rod?

- A. High start up rate trip
- B. Requirement to consult reactor engineering if recovery takes more than one hour
- C. OP delta T runback
- D. Requirement to place rods in manual for rod recovery activities

B

procedure: 18003-C

- a. incorrect - protects against high reactivity changes but may not be detected by the NIs because of the local power increase
- b. correct
- c. incorrect
- d. incorrect - rod recovery performed in manual but not to prevent local power density changes.

Answer: B

152. GEN2.1.15 002

While preparing to perform an evolution on the backshift, the SS instructs the crew to perform the procedure in accordance with the instructions in the Night Orders. The Night Orders specified that several steps be performed in a different order.

Which of the following is correct concerning the conduct of the evolution?

- A. The procedure can be performed following the guidance in the Night Orders. No other administrative controls are required.
- B. The Night Order guidance should not be applied. The evolution should not be performed.
- C. The procedure can be performed following the night order provided another licensed operator concurs.
- D. The procedure can be performed as directed by the night orders provided a 10CFR 50.59 evaluation was attached to the night orders.

B

VEGP 1002-C Plant Operating Orders 3.2.1.1

- a. Night Orders cannot provide direction to perform actions outside of current approved plant procedures.
- b. Information in Night Orders should be disregarded because it goes beyond the authority of night orders
- c. correct
- d. True only for standing orders.

Answer: B

153. 029K1.04 002

Which of the following signals directly stops the Containment purge supply and exhaust fans if a purge is in progress and a large break LOCA occurs?

- A. A containment ventilation isolation (CVI) signal.

- B. A low air flow trip signal.
- C. A high containment pressure safety injection signal.
- D. A containment isolation phase A (CIA) signal.

B
ref:

Answer: B

154. 054AK1.02 002

Which one of the following is the reason why AFW flow rate is procedurally restricted to less than 100 gpm when recovering a hot ($T_{hot} > 550$ F) steam generator level, if the level has fallen below 9% wide range indication?

- A. Ensure SG pressure transient condition does not occur which could result in an uncontrolled release through a safety valve.
- B. Ensure pressurizer pressure transient does not result in level transient that would actuate SI.
- C. Minimize stress conditions on steam generator components.
- D. Minimize RCS cooldown rate to prevent an inadvertent restart accident.

C

wrg background documents, LO-LP-37051-C

- a. incorrect - AFW flow will cause SG pressure to drop
- b. incorrect - pressurizer level does not initiate SI
- c. correct - per bases document
- d. incorrect - AFW flow itself insufficient

TP 2001 exam bank

Answer: C

155. W/E16EK1.3 002

Unit 1 has been shutdown for 18 hours and is in mode 3. Work order is in progress for 1-RE-0002. While conducting a containment mini-purge prior to initial entry, 1-RE-0002 alarms. The BOP operator notes the indications below for 1-RE-0002 only.

Which of the following is the next correct action to take?

- A. Evacuate the containment.
- B. Verify CVI actuation.
- C. Continue the containment purge per procedure 13125-1, "Containment Purge System."
- D. Secure the containment purge per procedure 13125-1, "Containment Purge System."

C

REF: 17102-1

MARK LIGHTS as lit or unlit

- a. No personnel in containment yet since initial purge in progress.
- b. Correct since bypass light is lit, auto CVI is bypassed.
- c. Incorrect. Verify automatic actuations occur is the first operator response.
- d. Bypass indicates the CVI Block switch is in the Block position.

Answer: C

156. 064K2.03 002

According to procedure 13145-1, "Diesel Generator Operation," train A Diesel Generator Emergency Start is initiated by which of the following?

- A. Fast Start of Train "A" Diesel Generator from the Control Room.
- B. Slow Start of Train "A" Diesel Generator from the Control Room.
- C. Using the pull-to-run/push-to-stop button at the front of the engine skid
- D. Start of Train "A" Diesel Generator from the emergency start switch at the Engine Control Panel.

D

ref: LO-LP-11201

DG emergency starts are initiated by closure of the Train "A" or "B" ESF SI contacts, loss of power, or operation of the manual break glass station at the engine control panel.

DG will not accept an emergency start signal from the control room if any of the following condition exists: local/switch 1-HS-4516 (4517) at PDG1 (pdg3) is in LOCAL

Answer: D

157. 026K4.01 002

Unit is at 100% power. A large break LOCA occurs.

Which of the following describes the operation of the Containment Spray system upon receipt of a containment spray signal?

The slave relays will...

- A. ...de-energize, opening the containment spray suction header isolation valves.
- B. ...energize, opening the containment spray suction header isolation valves.
- C. ...de-energize, opening the containment spray discharge header isolation valves.
- D. ...energize, opening the containment spray discharge header isolation valves.

D

LO-LP-15101

- a. incorrect - K-643 relay will energize, but starts the CS pumps, does not open the suction valves (normally open)
- b. incorrect - K-644 does energize but opens the discharge valves
- c. incorrect - K-643 relay will energize, but starts the CS pumps, does not send a signal to the discharge valves.
- d. correct,

Answer: D

158. 014A4.04 002

The crew just completed re-aligning a mis-aligned rod to its correct group position.

The following indications were noted:

- The rod control urgent failure alarm is illuminated
- CBD group 1 step counter is 15 steps below the bank's correct position

How should these indications be corrected?

- A. Reset the alarm and the group step counters using rod control startup handswitch on the QMCB panel "C".
- B. Manually adjust the step counter from the logic cabinet and reset the alarm using the cycle reset pushbutton at the logic cabinet.
- C. Reset the alarm and the group step counters using the rod control alarm reset switch on the QMCB.
- D. Reset the alarm with the rod control alarm reset switch, manually adjust the group step counter from the QMCB.

d
Licensee rewrite (NEW)
Answer: D

159. GEN2.4.39 002

An emergency has been declared 12 minutes after the reactor tripped. Electrical transients have deenergized the 480 volt bus ANB11 and the emergency diesel generators did not start.

Considering the order of usage, which one of the following SHOULD be used to notify state and local officials of the event?

- A. ENN
- B. Backup ENN using Commercial telephones
- C. Burke County and SRS radios in the TSC
- D. VEGP Cellular

A
ref:LO-LP-40101-22-05, Q-28
A. Normal power still available and primary method of communication
B. 1st backup
C. 2nd backup
d. Not used unless nothing else available
Answer: A

160. 002GEN2.1.2 002

Given the following:

- Unit 1 is in MODE 5 at mid-loop following RCP seal replacement
- RCS boron concentration is 2500 ppm
- Train "A" RHR is providing shutdown cooling

Which of the following correctly describes the process for RCS filling and venting from the mid-loop condition?

A. Filling, using normal charging pump until Pressurizer cold calibration level is 25%. Start RCPs one at a time to sweep air from steam generator U-tubes.

B. Filling, using normal charging pump until Pressurizer cold calibration level indicates full. Verify steam generator temperature is within 10 deg F of the RCS cold leg temperature, then start RCPs one at a time to sweep air from steam generator U-tubes.

C. Filling, using Train "B" RHR pump until Pressurizer cold calibration level is 60%. Energize the pressurizer heaters and raise pressurizer pressure to 365 psig. start RCPs one at a time to sweep air from steam generator U-tubes.

D. Draw vacuum on RCS using vacuum skid, then initiate RWST gravity drain to fill RCS to water solid conditions.

B

ref: procedure

references not available at this time

Answer: B

161. W/E11EK2.2 001

Given the following:

- Unit 1 was at 100% power when a primary LOCA occurred
- The crew transitioned from 19012-C, "Post LOCA Cooldown and Depressurization" to 19013-C, "Transfer to Cold Leg Recirculation" when RWST level reached 39%
- RCS pressure is 1700 psig
- all RCPs are running
- Pressurizer level is 2%
- RCS subcooling is 39 degrees

Which of the following is correct concerning the final alignment of ECCS?

A. The SIPs will be stopped because their miniflow to the RWST is isolated. Both RHRPs and CCPs will continue to run.

B. The SIPs will be stopped because their miniflow to the RWST is isolated. Since RHRP "B" supplies a suction for the SIPs it will also be shutdown. RHRP "A" and both CCPs will continue to run.

C. Both SIPs will be stopped because the core is being cooled by injection flow from the RHRPs and the CCPs.

D. All RHRPs, SIPs, and CCPs will continue to run until the RWST level reaches the "RWST EMPTY LEVEL" alarm setpoint of 10%.

A

Ref: O/LO-LP-37111-04, O/WOG-ERG Background
from licensee's exam bank

Answer: A

162. W/E16GEN2.4.6 001

Given the following information:

- An event has occurred in the plant that has resulted in a radioactive release in the containment.
- The Safety Parameter Display System (SPDS) indicates Critical Safety Function Status Tree display of YELLOW priority for Containment.
- Procedure 19253-C "FR-2.3 Response to High Containment Radiation Level" has been entered.

What is the mitigation strategy of the operator actions directed by Procedure 19253-C "FR-2.3 Response to High Containment Radiation Level?"

A. Allow a controlled release through containment filtration system prior to exceeding design pressure limits on the containment.

B. Verify containment ventilation isolation and attempt to reduce activity by containment filtration.

C. Reduce containment activity levels with dilution flow using the Main (Preaccess) Purge System.

D. Verify containment isolation Phase "A" and place all containment coolers in slow speed.

B

Ref: Procedure 19253-C "FR-2.3 Response to High Containment Radiation Level", Background information for WOG ERG FR-Z.3 "Response to High Containment Radiation"
CFR 43.5

Answer: B

163. GEN2.4.19 002

Within the Emergency Operating Procedures, multiple action steps which are sequence sensitive within a single, high level step are designated by which of the following formats ?

A. Each sub-step preceded by a bullet.

- B. Numeric labeling of sub-steps.
- C. Alphabetical labeling of sub-steps.
- D. High level step preceded by caution statement, "The following sub-steps must be performed in order."

C

Ref; 100012-C Section 5.1.3

- a. True when not sequence sensitive.
- b. Used only for High Level steps.
- c. Correct
- d. Fabricated distractor

Answer: C

164. GEN2.1.15 001

While preparing to perform an evolution on the backshift, the SS instructs the crew to perform the procedure in accordance with the instructions in the Night Orders. The Night Orders specified that several steps be performed in a different order.

Which of the following is correct concerning the conduct of the evolution?

- A. The procedure can be performed following the guidance in the Night Orders. No other administrative controls are required.
- B. The procedure should be performed as written. The Night Order guidance should not be applied.
- C. The procedure should not be performed until a temporary change to the procedure is approved.
- D. The procedure can be performed as directed by the night orders provided a 50.59 evaluation was attached to the night orders.

C

VEGP 1002-C Plant Operating Orders 3.2.1.1

- a. Night Orders cannot provide direction to perform actions outside of current approved plant procedures.
- b. Information in Night Orders cannot be disregarded.

- c. correct
- d. True only for standing orders.

Answer: C

165. W/E16EK1.3 001

Unit 1 has been shutdown for 18 hours and is in mode 3. While conducting a containment mini-purge for initial entry, 1-RE-0002 alarms. The BOP operator notes the indications below for 1-RE-0002.

Which of the following is the next correct action to take?

- A. Evacuate the containment.
- B. Manually initiate CVI.
- C. Secure the containment purge per procedure 13125-1, "Containment Purge System."
- D. Reset the alarm, since the detector was in bypass, and notify chemistry.

B

REF: 17102-1

- a. No personnel in containment yet since initial purge in progress.
- b. Correct since bypass light is lit, auto CVI is bypassed.
- c. Incorrect. Verify automatic actuations occur is the first operator response.
- d. Bypass indicates the CVI Block switch is in the Block position.

Answer: B