

Turkey Point December Exam 50-251/2000-301

TURKEY POINT INITIAL DRAFT SUBMITTAL RO MASTER WRITTEN EXAM

1. 005AK3.05 001

Unit 3 was operating at 100% when a single control rod in control bank D drops into the core. The SRO directs that the dropped rod be recovered.

Which one of the following prevents the remaining rods in the control rod bank from being withdrawn while the dropped rod is being recovered?

- A. The rod stop bypass is used to block control rod bank D outward movement.
- B. The "lift coil disconnect" disconnect switches are opened on control bank D rods that did not drop.
- C. The rod drop bistable actuated when the rod dropped and will prevent outward rod motion by control bank D.
- D. The "lift coil disconnect" disconnect switch is opened on the dropped rod to electrically isolate it from control bank D.

B

3-ONOP-028.3, attachment 1 step 2

Answer: B

2. 029EK1.02 001

Which one of the following reactivity values is correct if K_{eff} is equal to 0.95?

- A. +2.053
- B. -2.053
- C. +0.053
- D. -0.053

D

Reactivity = $(K_{eff} - 1)/K_{eff}$

Answer: D

3. 037AA2.3 001

Following an alarm on R-3-19, S/G blowdown liquid activity with the reactor at normal operating temperatures and pressures at power, which one of the following should an operator expect?

- A. DAM-1 S/G steamline monitor to decrease over time.
- B. DAM-1 S/G steamline monitor to increase over time.
- C. R-3-15, Air ejector radiation monitor to decrease over time.

D. R-3-15, Air ejector and DAM-1 S/G steam line radiation monitor indications remain constant over time.

B

3-EOP-E-3

Answer: B

4. 055EK3.02 001

Unit 3 experienced a station blackout and operators have implemented 3-EOP-ECA-0.0, Loss of All AC Power. The 3A1 and 3A2 Battery chargers are inoperable.

Step 1 of Attachment 3, 125V DC Bus Shedding, must be performed within _____ to ensure the 3A vital battery will supply vital loads for a minimum of _____.

Which one of the following combinations accurately completes the above statement?

- A. 30 minutes, 2 hours
- B. 30 minutes, 4 hours
- C. 60 minutes, 2 hours
- D. 60 minutes, 4 hours

c

REFERENCE: 3-EOP-ECA-0.0, CAUTION before Step 24 Basis

Answer: C

5. 074EK1.05 001

Unit 3 has just been tripped from 100% power due to a stuck open pressurizer safety valve. The crew has just tripped the reactor coolant pumps due to loss of subcooling. Pressurizer level is 70%. How would RVLMS respond when saturation conditions are reached in the RCS?

- A. Decrease, then increase.
- B. Decrease rapidly.
- C. Increase, then decrease.
- D. Increase rapidly.

B

Answer: B

6. 059K1.04 001

Unit 3 is operating at 100% power when the controlling S/G pressure transmitter fails low on the 3A S/G.

Which one of the following describes the effect this will have on the indicated steam flow of the controlling channel and the initial 3A FW Control Valve, FCV-478, response?

- A. Indicated steam flow will decrease. The FCV will open.

- B. Indicated steam flow will decrease. The FCV will close.
- C. Indicated steam flow will increase. The FCV will open.
- D. Indicated steam flow will increase. The FCV will close.

B

Answer: B

7. 015/017AK2.10 001

Per 3-ONOP-041.1, "Reactor Coolant Pump Off-Normal," which one of the following requires stopping an RCP ?

- A. RCP horizontal motor vibrations equal 10 MILS
- B. RCP vertical shaft vibrations equal 10 MILS
- C. RCP stator winding temperature equals 225 degrees
- D. RCP pump bearing temperature equals 200 degrees

A

Reference foldout page for 3-ONOP-041.1

A limit is 5 MILS

B limit is 20 MILS

C Temperature limit is 248 degrees

D Temperature limit is 225 degrees.

Answer: A

8. 024AK2.03 001

Following an uncontrolled increase in the source range count rate while subcritical. Operators enter 3-ONOP-046.1, "Emergency Boration" and establish the following conditions:

C FI-3-110, Emergency Borate Flow, indicates 64 GPM.

C FI-3-122, Charging Line Flow, indicates 40 GPM.

Which one of the following describes the appropriate procedural actions to be taken per 3-ONOP-046.1?

- A. Start an additional Boric Acid Pump and align valves as necessary to establish emergency boration flow.
- B. Open CV-3-310B, Loop C Charging Isolation Valve, to increase emergency boration flow.
- C. Start an additional Charging Pump and align valves as necessary to establish emergency boration flow.
- D. Align Charging Pump Suction to the RWST.

C

Answer: C

9. W/E11EA2.2 001

While in EOP-ECA-1.1, "Loss of Emergency Coolant Recirculation" operators have successfully restored recirculation capability. What is the proper action at this point?

- A. Continue with this procedure until the procedure transitions out to another procedure.
 - B. Suspend performance of EOP-ECA-1.1 and return to the procedure and step in effect.
 - C. Go to EOP-E-1, "Loss of Reactor or Secondary Coolant," Step 1.
 - D. Go to EOP-ES-1.3, "Transfer to Cold Leg Recirculation."
- B

REF: EOP-ECA-1.1 Caution prior to Step 1.

SOURCE: EB#69023320304

Answer: B

10. G2.4.8 001

Which one of the following statements describes the application of NOTES and/or CAUTIONS found within the body of an ONOP (for example, prior to step 4 of a 20 step ONOP)?

- A. CAUTIONS apply to the step which they precede and for the remainder of the procedure, unless otherwise stated.
- B. CAUTIONS only apply to the step which they precede, unless otherwise stated.
- C. NOTES apply to the step which they precede and for the remainder of the procedure, unless otherwise stated.
- D. NOTES continue to apply after transitioning to another procedure, unless otherwise stated.

A

REF: ADM-211, step 5.5.4,

page 15, 8/23/95

SOURCE: TP Q 69023200128/Q242 (ADM-211 Bank)

Bank Q modified slightly to make it clear that answer "C" is not correct (procedure says that a note that precedes the first high-level step apply to the whole procedure).

Answer: A

11. 022K2.01 001

Unit 3 has experienced a simultaneous LOOP/LOCA.

Which one of the following describes the response of the Emergency Containment Cooler (ECC) Fan motors?

- A. Two ECCs start immediately upon receipt of the SI signal.
- B. Two ECCs start when sequenced on by the sequencers.
- C. If the 3B EDG fails to start, ECCs 3A and 3B will be powered from the 3A EDG.

D. If the 3A EDG fails to start, ECCs 3B and 3C will be powered from the 3B EDG.
B

REFERENCE: Logic Sheet 5613-T-L1, Sheet 12
Answer: B

12. 061K6.01 001

"A" AFW pump is out of service. Operators have realigned the "C" AFW pump to train 1. Following a reactor trip and initiation of safety injection due to an unisolable fault on S/G B, conditions associated with AFW are:

- AFW pump C steam supply MOV failed to open
- AFW pump B discharge pressure = 10 psig
- AFW pump B RPM = 5900 RPM
- AFW flow to S/G A, B, & C = 0 gpm

Which one of the following is indicated?

- A. Steam binding of B AFW pump due to backleakage of steam through the discharge check valves.
- B. Air binding of B AFW pump due to inleakage of air through the mechanical seals.
- C. Inadequate NPSH for B AFW pump due to the suction valve failing shut on loss of air.
- D. Runout conditions on B AFW pump due to low pressure in B S/G.

A

REFERENCE

TURKEY PT: OSP 75.1, AFW Train 1 Operability Verification

NRC Exam Bank - T Pt 1991/09/30, , and facility

from Turkey Point bank - question 69021231001 What is correct value for unknown psig

Answer: A

13. 002A4.06 001

When transferring water from the SFP to the RWST, what is the flow limitation and what is the basis for this flow limitation?

- A. Flow is limited to 100 GPM because of the slow response of the RWST overflow instrumentation.
- B. Flow is limited to 100 GPM because it must pass through the demineralizer in the SFP purification loop.
- C. Flow must be greater than 200 GPM because of the Minimum Developed Head.
- D. Flow must be greater than 200 GPM because it must pass through the demineralizer in the SFP purification loop.

B

3/4-OP-033 P&L 4.10

System Description No. 041 Fuel Pool Cooling, Purification and Ventilation System also System Description No. 007 Reactor Coolant System/

Transferring Water from the SFP to the RWST

Water can be transferred from the SFP to the RWST via the SFP purification loop. Flow is limited to 100 GPM since it must pass through the demineralizer.

Pump specifications Flow, GPM 2300 Minimum Developed Head, ft H₂O 125

Answer: B

14. 005K5.09 001

Which one of the following describes why the discharge of the HHSI pumps is realigned 12 hours after a large break LOCA?

A. This is done to prevent the possibility of boron precipitation due to the concentrating effects experienced during a cold leg break. The HHSI pumps are then run for hot leg recirculation.

B. This is done to prevent the possibility of boron precipitation due to the concentrating effects experienced during a hot leg break. The HHSI pumps are then run for cold leg recirculation.

C. This is done to prevent the loss of HHSI pump NPSH. The HHSI pumps then take suction from the containment sump and are run for hot leg recirculation.

D. This is done to prevent the loss of HHSI pump NPSH. The HHSI pumps then take suction from the containment sump and are run for cold leg recirculation.

A

EOP E-1 step 32 and BD-EOP-E-1 page 50

During the recirculation phase of ECCS operation which would normally only occur after a large break LOCA, the preferred alignment is RHR pumps delivering flow from the recirculation sumps to the RCS with the SI pumps secured. If adequate RHR flow cannot be verified, then the higher head SI pumps are used with suction taken from the discharge of the RHR pumps. The RHR pumps will still be taking their suction from the containment recirculation sumps.

Twelve (12) hours after the event (large break LOCA), the discharge of the SI pumps is realigned to loops A and B hot legs. This is done to prevent the possibility of boron precipitation due to the concentrating effects experienced during a cold leg break. The SI pumps are then run for hot leg recirculation.

Answer: A

15. G2.1.9 001

Which one of the following defines the personnel who, under O-ADM-200, "Conduct of Operations," have the authority to remove personnel from the control room?

Only the NPS and:

A. ANPS

B. ANPS, RCO

- C. ANPS, RCO, NWE
- D. ANPS, RCO, NWE, Shift Technical Advisor

C

REF: 0-ADM-200 step 5.6.18.8

Answer: C

16. 008A2.02 001

In accordance with 3-ONOP-030, "Component Cooling Water Malfunction," which one of the following IMMEDIATE ACTIONS must be performed if CCW surge tank level is decreasing and the CCW Surge Tank Makeup Valve, MOV-3-832, is fully open?

- A. Trip Reactor and stop all RCPs.
- B. Dispatch an operator to tie together the CCW headers.
- C. Operate the running charging pump at minimum speed.
- D. Dispatch an operator to split the CCW header.

A

REFERENCE

3-ONOP-030, Step 1 & 2 immediate actions

NRC Exam Bank - 1994/02/28 - added correct answer per revision 10/1/98

Answer: A

17. 011A4.01 001

With reactor power at 50% and the pressurizer level control transfer switch in Position III (LT 461/460), a failure causes the following plant events to occur in the given sequence (assume no operator actions are taken):

1. Charging flow reduced to minimum.
2. Pressurizer level decreases.
3. Letdown secured and Pressurizer heaters off.
4. Pressurizer level increases until high level trip.

Which one of the following failures occurred?

- A. Level transmitter 460 failed low.
- B. Level transmitter 460 failed high.
- C. Level transmitter 461 failed low.
- D. Level transmitter 461 failed high.

D

5610-T-D-15 Sht 1

Answer: D

18. 035K3.01 001

Which one of the following is indicative of an impending loss of natural circulation flow?

- A. RCS delta T at 57 degrees F and increasing
- B. RCS subcooling at 42 degrees F and increasing
- C. Source range detector counts decreasing
- D. RCS cold leg temperature slowly decreasing

A

Surry exam 1999

- B. Correct if subcooling was at 30 degree F or below
 - C. Correct if counts were increasing
 - D. Correct if steam generator pressures were not responding
- Answer: A

19. 033AK3.01 001

A reactor startup is in progress with Source Range counts indicating $3.7 \text{ E}+4$ cps on N-31 and N-32. Intermediate Range Instrument N-35 indicates $3 \text{ E}-11$ and N-36 indicates $1 \text{ E}-11$. What actions should be performed and why?

- A. Enter the ONOP for Intermediate Range Instrument malfunction, maintain power < P-6, N-35 is undercompensated.
- B. Enter the ONOP for Intermediate Range Instrument malfunction, maintain power < P-6, N-36 is failed low.
- C. Continue the startup, power is too low to determine if any Intermediate Range detector has failed.
- D. Enter the ONOP for Intermediate Range Instrument malfunction, continue the startup, adequate protection and monitoring is available with one Intermediate Range detector.

B SD 004

Answer: B

20. W/E03EA2.1 001

The following conditions exist on Unit 3:

- C Reactor trip and SI have automatically actuated.
- C Operators are preparing to transition from EOP-E-1 "Loss of Reactor or Secondary Coolant."
- C RCS pressure is stable at 700 psig.
- C All S/G pressures are stable at 900 psig.
- C RWST level is 310,000 gallons and decreasing slowly.
- C Containment pressure peaked at 10 psig and is decreasing.

Which one of the following identifies the correct procedure to which operators will transition to?

- A. ES-1.1 "SI Termination"
- B. ES-1.2 "Post LOCA Cooldown and Depressurization"
- C. ES-1.3 "Cold Leg Recirculation"

D. ES-1.4 "Hot Leg Recirculation"
B

REF: E-1 Step 19.b
Answer: B

21. 007AK2.03 001

Given the following plant conditions:

- The reactor tripped 45 seconds ago.
- Turbine stop valves are closed.
- Megawatt meter at zero output.
- Mid and East GCBs 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, actuate the Emergency Gen Bkr Trip Switch.
- D. Generator exciter has failed, locally open 3A & 3B MG set supply breakers.

C

REFERENCE
3-EOP-E-0 step 2.C RNO
1994/02/28 Turkey Point 3 & 4
Answer: C

22. W/E13G2.3.9 001

Which ONE of the following Hi radiation alarms will initiate a Containment Purge System isolation?

- A. ARMS R2 (Containment Area)
- B. SPING4 (Special Particulate and Iodine Noble Gas)
- C. PRMS R12 (Containment Air Radioactivity)
- D. PRMS R14 (Plant Vent Gas)

C

SD029, CONTAINMENT VENTILATION AND HEAT REMOVAL, page 23 LP 6902129,
CONTAINMENT VENTILATION AND HEAT REMOVAL, E.O. 5 ONOP11108.1, PROCESS
RADIATION MONITOR, Table 1
NRC Exam Bank - 1992/04/20
Answer: C

23. G2.3.2 001

Which one of the following situations would require prior review by the ALARA review board as detailed in 0-ADM-600, "Health Physics Manual?"

- A. 1 person replacing a valve gasket that involves an exposure of 2.5 rem total.
- B. 2 persons removing a piping spool that involves an exposure of 4.5 rem total.
- C. 3 persons performing a surveillance test on an HVAC filter unit involving an exposure of 2.0 rem for each person.
- D. 5 people performing preventive maintenance on a pump which involves an exposure of .75 rem for each person.

C

REF: ADM-600 Section 5.16.1.d

SOURCE: TP Bank Q 69020201201/Question 112. Per procedure, cumulative job exposure of 5 Rem requires ALARA review board

Answer: C

24. 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 8% 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 level transient does not result in pressure transient that would actuate SI.
- C. Minimize thermal stress conditions on steam generator components.
- D. Minimize RCS cooldown rate which could result in an unacceptable positive reactivity addition.

C, EOP-FR-H.1, Caution Before Step 4 Basis

Answer: C

25. 032AG2.2.23 001

Given the following:

- C Reactor startup in progress with the reactor critical.
- C Intermediate Range Channels N35 and N36 power indicate 3E-11 and 5E-11 amps respectively.

Which one of the following describes the actions required if BOTH Source Range (SR) Instruments fail LOW in this situation?

- A. Manually insert all control and shutdown rods, then open the reactor trip breakers.
- B. Maintain current power level until at least one SR instrument is returned to service.

- C. Manually trip the reactor.
- D. Enter a 6 hour LCO then continue the startup.

A

Turkey Point, ONOP059.5, step 5.2.2.1. Obj. 04
NRC exam Bank - 1995/02/24 Turkey Point 3 & 4

Answer: A

26. 068K6.10 001

While operating in Mode 1, Annunciator H1/6 ,PRMS CHANNEL FAILURE alarms. On inspection, the fail light is found to be illuminated on PRMS channel 18, Waste Disposal System Liquid Effluent Monitor.

Which one of the following describes the correct operator response?

- A. Bypass the channel and direct chemistry to take periodic samples.
- B. Direct the SNPO to shut RCV-014 (gaseous release isolation valve).
- C. Stop liquid release if in progress.
- D. Refer to 0-OP-061.11, WDS Controlled Liquid Release to Circulating Water.

C

3-ARP-097.CR H 1/6
3-ONOP-067 Step 8 RNO

Answer: C

27. W/E09EA1.3 001

During the performance of 3-EOP-ES-0.2, "Natural Circulation Cooldown," while cooling down the RCS at a rate of 25 degrees F/hour, water inventory in the Condensate Storage Tanks is lost.

Which one of the following describes the appropriate procedural actions?

- A. Remain in ES-0.2, "Natural Circulation Cooldown," and maintain the same cooldown rate.
- B. Remain in ES-0.2, "Natural Circulation Cooldown," and stop the cooldown.
- C. Transition to ES-0.3, "Natural Circulation Cooldown With Steam Void in Vessel (With RVLMS,)" and increase the cooldown rate.
- D. Remain in ES-0.2, "Natural Circulation Cooldown," and increase the cooldown rate.

C

ES 0.2, basis for note prior to step 17

Answer: C

28. 078K3.01 001

The Instrument Air System controls and indications located at the Alternate Shutdown Panel (ASP) consist of air pressure indication and the _____.

Which one of the components below completes the above statement?

- A. Unit 3 & 4 air header cross connect isolation valve control switch.
- B. Containment Air Header Isolation Valve Normal/Isolate switch.
- C. Diesel air compressor start pushbutton.
- D. Electric air compressor start pushbutton.

B,

SD155, 10/8/93, Page 7 & LPEO 4.

NRC Exam Bank - T Pt 1994/02/28

Answer: B

29. 103A1.01 001

Operators are responding to a main steam line break inside containment and are attempting to secure the Containment Spray pumps (CSPs).

Which one of the following identifies the EOP-E-1 procedural criteria that must be satisfied to allow stopping the CSPs?

- A. Containment pressure <14 psig OR Containment temperature <122 F
- B. Containment pressure <14 psig AND Containment temperature <122 F
- C. Containment pressure <20 psig OR Containment temperature <180 F
- D. Containment pressure <20 psig AND Containment temperature <180 F

b.

REFERENCE: 3-EOP-E-1, Step 12

Answer: B

30. 034G2.4.48 001

Given the following:

- C The unit is in Mode 6 with the core loading in progress.
- C Power Range channel N42 is out of service for annual maintenance.
- C The power supply for Power Range channel N41 power range channel fails.

Which one of the following describes the required action in this situation?

- A. No actions are required.
- B. Stop all fuel movement.
- C. Evacuate containment.
- D. Verify refueling cavity level is above 56'10".

B

Turkey Point, 3OP040.2, Tech Specs 3.9.3, ONOP59.5, 59.8.

1995/02/24 Turkey Point 3 & 4

Answer: B

31. 013K2.01 001

Which one of the following valves will remain open following a Phase A containment isolation actuation?

- A. MOV-381 RCP seal water return
- B. CV-855 Accumulator N2 supply
- C. MOV-730 RCP bearing water return
- D. CV-519A Primary water to containment isolation

C

Reference: SD 063/SYS.049, 063, P 85 , 3/4-OSP-203.1 Attachment 7

- a. MOV-381 RCP seal water return (Result of a phase A actuation)
- b. CV-855 Accumulator N2 supply (Result of a phase A actuation)
- d. CV-519A Primary water to containment isolation (Result of a phase A actuation)

Answer: C

32. 036AK2.02 001

Refueling operations are in progress on Unit 3. An irradiated fuel assembly is in the transfer cart in containment when the following symptoms occur:

- C Annunciator I 4/6, CNTMT SUMP HIGH LEVEL in alarm
- C Annunciator G 9/5, CNTMT SUMP HIGH LEVEL in alarm
- C Annunciator H 1/1, SPENT FUEL PIT LOW LEVEL in alarm
- C Containment Radiation Monitor R-3-12 increasing

Which one of the following is a required IMMEDIATE ACTION based on the above symptoms?

- A. Direct the refueling operator to close SFP Transfer Tube Gate Valve.
- B. Lay irradiated fuel assembly down but do not transfer to the spent fuel pool.
- C. Sound the containment Evacuation alarm.
- D. Lay irradiated fuel assembly down and transfer to the spent fuel pool.

C.

REFERENCE

3ONOP033.2, REFUELING CAVITY SEAL FAILURE, step 4.1,

NRC Exam Bank - QDATE 1992/04/20

Answer: C

33. G2.2.28 001

Which one of the following represents a means of inadvertent criticality prevention, as described in 0-ADM-035, "Limitations and Precautions for Handling Fuel Assemblies?"

- A. The minimum boron concentration while fuel is stored in the spent fuel pool is 1925 ppm.
- B. Burnup limits are placed on fuel located in Region I of the spent fuel pool.
- C. Enrichment limits are placed on the fuel located in Region I of the spent fuel pool.
- D. Fuel assembly enrichment shall not exceed 3.5 weight per cent of U-235 in the spent fuel pool storage racks.

C

REF: 0-ADM-035 pg 16. TS Bases 3/4.9.14

See 5.4.2 of procedure.

- a. incorrect - 1950 req'd
- b. incorrect - applies to Region II
- c. correct
- d. incorrect - 4.5 w/o applies to this

Answer: C

34. 009EG2.1.30 001

Unit 3 was at 100% steady state power when the following events occurred:

- C Unit 3 suffered a small break LOCA and tripped from 100% power.
- C Offsite power was lost coincident with the reactor trip but has NOT been restored.
- C The operators are now at step 3 of 3-EOP-ES-1.2, "Post-LOCA Cooldown and Depressurization."
- C Pressurizer level is now 25%.

Which one of the following describes the local actions required to enable the RCO to energize pressurizer backup group heaters?

- A. To restore A and B group heaters, reset their respective lockout relays.
- B. To restore A and B group heaters, take their respective keylock switches to emergency.
- C. To restore the A group heaters take the respective keylock switch to emergency. To restore the B group heaters, reset the lockout relay.
- D. To restore the A group heaters, reset the lockout relay. To restore the B group heaters take the respective keylock switch to emergency.

D

SOURCE: EB#69023290306

REF:3-EOP-ES-1.2 step 3

Answer: D

35. W/E04EA2.1 001

3-EOP-ECA 1.2, "LOCA Outside Containment" step 3, states:

"Check If Break Is Isolated."

What indications do you use to accomplish this and based on these indications, where do you transition?

A. If RCS temperature is increasing then go to 3-EOP-E-1, "Loss of Reactor or Secondary Coolant." If RCS temperature is decreasing then go to 3-EOP-ECA-1.1, "Loss of Emergency Coolant Recirculation."

B. If RCS temperature is increasing then go to 3-EOP-ECA-1.1, "Loss of Emergency Coolant Recirculation." If RCS temperature is decreasing then go to 3-EOP-E-1, "Loss of Reactor or Secondary Coolant."

C. If RCS pressure is increasing then go to 3-EOP-E-1, "Loss of Reactor or Secondary Coolant." If RCS pressure is decreasing then go to 3-EOP-ECA-1.1, "Loss of Emergency Coolant Recirculation."

D. If RCS pressure is increasing then go to 3-EOP-ECA-1.1, "Loss of Emergency Coolant Recirculation." If RCS pressure is decreasing then go to 3-EOP-E-1, "Loss of Reactor or Secondary Coolant."

C
ECA- 1.2, Step 3 . Page 6 of 6. If RCS pressure is increasing then go to 3-EOP-E-1, Loss of Reactor or Secondary Coolant. If RCS pressure is decreasing then go to 3-EOP-ECA-1.1, Loss of Emergency Coolant Recirculation.

Answer: C

36. G2.2.22 001

Given the following:

C The Unit is critical.

C Three reactor coolant loops are in operation.

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

A. Power = 50%, Pressure = 1975 psig, Tavg = 605 F

B. Power = 80%, Pressure = 2250 psig, Tavg = 640 F

C. Power = 10%, Pressure = 2400 psig, Tavg = 655 F

D. Power = 90%, Pressure = 2000 psig, Tavg = 595 F

B

REF: TS 2.1.1 and Fig 2.1-1 (PROVIDE FIGURE WITH EXAM)

SOURCE: NEW (MSM)

Answer: B

37. 056AG2.4.21 001

Following a loss of offsite power, Tc is within 35 deg. F of Tsat for S/G pressure. This is a positive indication of which one of the following?

A. single phase flow in the RCS loops

B. two phase flow in the RCS loops

- C. safety Injection has occurred
- D. safety Injection has not occurred

A is positive indication of natural circulation flow, which is single phase flow, Modified from - T pt 1991/09/30

Modified from - T pt 1991/09/30

Answer: A

38. 026EA2.04 001

Which one of the following will result if a Charging Pump is operated at maximum speed without component cooling water?

- A. temperature of the coupling oil will exceed limits.
- B. temperature of the thrust bearing will exceed limits.
- C. charging pump will cavitate within 1 minute.
- D. temperature limits are expected to remain within specification limits indefinitely.

Procedure No. 3-ONOP-030 Component Cooling Water Malfunction

- A. This will occur at half speed
- B. This will not occur
- C. Pump will not get warm enough to cavitate

Answer: D

39. 057EK3.01 001

The plant is stable at 90 % power. Which one of the following is most likely to cause an entry into EOP-E-0 ?

- A. Loss of 3P06.
- B. Loss of 3P07.
- C. Loss of 3P08.
- D. Loss of 3P09.

D

correct answer - S/G High Level if Turbine Runback is not terminated.

Ref 6902260

Answer: D

40. 022AA1.01 001

The operating charging pump fails resulting in a loss of normal charging while operating at 100% power.

Which one of the following is the required action after unsuccessful attempts to start a charging pump?

- A. Fully open CV-3-310B, alternate charging valve.
- B. Close CV-3-204, letdown isolation valve.
- C. Close CV-3-200 A/B/C, letdown orifice isolation valve(s).
- D. Fully open HCV-3-121, charging flow to Regenerative heat exchanger.

C

3ONOP047.1, Loss of Charging Flow in Modes 1 through 4, step 4.2

E.O. 1 of LP

NRC Exam Bank from the 1996/06/17 Turkey Point 3 & 4

Answer: C

41. 086A3.01 001

A fire hydrant on the main fire header is opened, resulting in decreasing fire main pressure.

As pressure continues to drop, which one of the following identifies the correct automatic starting order of fire system pumps?

The first fire pump to autostart would be the:

- A. Diesel Fire pump followed by the Electric Fire pump.
- B. Diesel Fire pump followed by the Jockey Fire pump.
- C. Electric Fire pump followed by the Diesel Fire pump.
- D. Electric Fire pump followed by the Jockey Fire pump.

c.

REFERENCE: SD-153, Page 58

From

Jockey Pumps (234A & B)

These pumps take suction from the Raw Water Tanks. Their suction lines are tied together with the line from RWT II normally isolated. Therefore, RWT I normally provides suction for both jockey pumps. Their common discharge is connected to the fire main to maintain about 140 PSIG on the system. The recirculation line common to both pumps connects to both raw water tanks but is usually valved to RWT I.

Electric Fire Pump (P39)

The pump is rated at 2000 GPM, with shutoff head of 140 PSIG. Normal suction is from Raw Water Tank I.

Answer: C

42. 038EA1.27 001

In Step 3 of 3-EOP-E-3, "Steam Generator Tube Rupture," operators are directed to Check ruptured S/G steam dump to atmosphere û CLOSED.

Which one of the following describes how the RCO can verify the Steam Dump to Atmosphere (SDTA) valve is closed?

A. The SDTA controller demand position needle is at 0%.
The ERDADS mimic displays a filled in valve.

B. The SDTA controller demand position needle is at 0%.
The ERDADS mimic displays an unfilled valve.

C. The SDTA controller demand position needle is at 100%.
The ERDADS mimic displays a filled in valve.

D. The SDTA controller demand position needle is at 100%.
The ERDADS mimic displays an unfilled valve.

B.
3-EOP-E-3, "Steam Generator Tube Rupture" Step 3.
SD 105 Steam Dump System.

TURKEY POINT REVIEWER - I COULD NOT COPY THE BLACK AND WHITE TRIANGLES,
PLEASE VERIFY THE THE WORDING IS CORRECT

Answer: A

43. 071G2.4.46 001

The following conditions exist:

- A Gas Decay Tank release is in progress.
- PRMS R-15, Condenser Air Ejector monitor, has alarmed.
- PRMS R-14, Plant Vent monitor, has alarmed.

Which one of the following describes a correct operator response?

- A. Enter ONOP-041.3, "Excessive RCS Leakage."
- B. Enter ONOP-071.1, "Secondary Chemistry Deviation from Limits."
- C. Verify automatic isolation of the Gas Decay Tank release has occurred.
- D. Verify automatic isolation of steam generator blowdown has occurred.

C

REFERENCE: 3-ONOP-067, Foldout Page Item 2.b

Answer: C

44. 063K3.02 001

Which one of the following identifies the AFW steam supply valve(s) that may be deenergized in the event of a loss of vital DC power?

A. MOV-1403, 3A Stm. Supply to Aux. Feedwater Pumps
MOV-1404, 3B Stm. Supply to Aux. Feedwater Pumps

B. MOV-1403, 3A Stm. Supply to Aux. Feedwater Pumps

MOV-1405, 3C Stm. Supply to Aux. Feedwater Pumps

C. MOV-1404, 3B Stm. Supply to Aux. Feedwater Pumps
MOV-1405, 3C Stm. Supply to Aux. Feedwater Pumps

D. MOV-1403, 3A Stm. Supply to Aux. Feedwater Pumps
MOV-1404, 3B Stm. Supply to Aux. Feedwater Pumps MOV-1405, 3C Stm. Supply to Aux.
Feedwater Pumps
b.

REFERENCE: 3-OP-075, Attachment 7
Answer: B

45. 039A1.09 001

The DAM1 steam line radiation monitor has alarmed. Which one of the following describes how DAM1 can be used to determine which S/G is the source of the radiation?

A. Sample line isolation valves must be operated locally. DAM1 readings can be monitored locally and on ERDADS.

B. Sample line isolation valves must be operated locally. DAM1 readings can be monitored locally and in the Primary Sample Room.

C. Sample line isolation valves may be operated from the Control Room. DAM1 readings can be monitored locally and on ERDADS.

D. Sample line isolation valves may be operated from the Control Room. DAM1 readings can be monitored locally and in the Primary Sample Room.

D

5613-M-3072, Sheet 1. 5613-M-3032, Sheet 2

The DAM/1 has been installed as a common steam line radiation monitor. Sample lines from all six steam generators run simultaneously through the detector. Flow indicators are provided on each sample line so flow can be verified. To identify a ruptured steam generator, manual isolation valves must be operated and the display checked. Since there is a continuous sample flow, delay time will be negligible.

The DAM/1 Unit is identical in function and operation to the SPING/4.

Answer: A

46. 003AK3.08 001

A control rod has dropped while at 100% power.

Which one of the following describes the control rodÆs status and the basis for this determination?

The dropped control rod is:

A. inoperable. To limit the effects of rod misalignment on accident analysis.

B. inoperable. To ensure minimum shutdown margin is maintained.

C. operable. Accident analysis is not affected by rod misalignment.

D. operable. Shutdown margin requirements are not affected by rod misalignment.
ANSWER:

A

REFERENCE: 3-ONOP-028.3, Step 5. Tech. Spec. 3.1.3.1 Basis

Answer: A

47. 055K3.01 001

Unit 4 is in Mode 1 when CV-4-3700, Main Steam Supply valve to SJAE, fails closed.

Which one of the following combinations of megawatt load and condenser vacuum will require the operators to manually trip the reactor and turbine?

A. 300 MWe, 23öHg

B. 600 MWe, 23öHg

C. 300 MWe, 25öHg

D. 600 MWe, 25öHg

a.

REFERENCE: 3-ONOP-014, Step 5.4 & Enclosure 1

Answer: A

48. 010K5.01 001

With Pressurizer pressure initially at 2235 psig, a PORV opened and remained open.

Which one of the following identifies the expected PORV tailpipe temperature as seen on TI-3-463 (VPA) when PRT pressure equals 50 psig?

A. 212 F

B. 281 F

C. 298 F

D. 315 F

ANSWER:

c

REFERENCE: Steam Tables

Answer: C

49. 067EK1.02 001

In the event of a fire, which one of the following completes the below requirement regarding the Fire Brigade Program per 0-ADM-016.2, "Fire Brigade Program" ?

IF a qualified fire brigade operator is available, THEN a Fire Brigade member shall turn over his fire brigade duties to the qualified fire brigade operator prior to:

A. going to the switchyard.

- B. going to the Nuclear Admin Building.
- C. entering the switchgear room.
- D. using a self contained breathing apparatus.

0-ADM-016.2 Fire Brigade Program 9/23/99

step 3.7.10 IF a non-fire brigade (qualified) operator is available, THEN a Fire Brigade member shall turn over his fire brigade duties to the non-fire brigade (qualified) operator prior to entering containment or going to the switchyard.

Answer: A

50. 072A2.02 001

The detector for Component Cooling Water Monitor, channel R-17A has failed high and is now alarming. Which one of the following are the consequences of this failure?

- A. RCV-3-609, CCW Head Tank Vent Valve, closes.
- B. There is a local alarm only, and there are no automatic actions associated with this channel alarm.
- C. The MOV for sample from R-17A in the Primary Sample Room closes, and the MOVs downstream of R-17B must be used to throttle and balanced flow to obtain a sample to confirm the detector failure.
- D. RCV-3-014 cannot be opened until the alarm has been reset and RCV-3-014 hand loader setting has been decreased to zero.

A
SD-068W97

A. Correct answer - this is from SD-068W97 page 27

B - There are no automatic actions associated with this alarm for R-15

C. - This is required for a failure of R-19

D. - When RCV014 is tripped on high radiation, it can not be opened from the waste/ boron panel until the alarm has been reset and RCV014 hand loader setting has been decreased to zero.

Answer: A

51. 015K5.14 001

Which one of the following is correct concerning excore nuclear instrumentation?
The excore detectors are encased in:

- A. lead which slows down the leaking fast neutrons and brings them into thermal equilibrium with the target boron.
- B. polyethylene which slows down the leaking fast neutrons which causes them to have a higher potential energy than the target helium.

C. polyethylene which slows down the leaking fast neutrons and brings them into thermal equilibrium with the target boron.

D. lead which slows down the leaking fast neutrons and brings them into thermal equilibrium with the target helium.

C

SD-004W97

However, this reaction requires that the incident neutron be in thermal equilibrium with the target boron. Due to their physical location, the excore nuclear instruments will be able to detect only neutrons that leak from the core, most of which will be fast neutrons. Consequently, the excore detectors must be encased in polyethylene which slows down (moderates) the leaking fast neutrons and brings them into thermal equilibrium with the target boron.

Answer: C

52. 068A3.02 001

A large break LOCA has occurred on Unit 4.

The containment sump is full.

SI has been reset.

Which one of the following describes the effect on the containment sump pumps and the containment sump pump discharge valves when Phase A containment isolation is reset?

- A. The sump pumps will start and the discharge valves will open.
- B. The sump pumps will start and the discharge valves will remain closed.
- C. The sump pumps will remain off and the discharge valves will open.
- D. The sump pumps will remain off and the discharge valves will remain closed.

d
d.

REFERENCE: 5614-M-3061, Sheets 1 & 2
5614-E-25, Sheet 25D
5610-E-25, Sheet 76

Answer: D

53. 033K4.05 001

The design basis of the spent fuel storage racks is to maintain Keff _____ provided the pool is

- A. $K_{eff} < 1.0$, flooded with 1950 PPM borated water.
- B. $K_{eff} < 1.0$, flooded with unborated water.
- C. $K_{eff} < 0.95$, flooded with 1950 PPM borated water.
- D. $K_{eff} < 0.95$, flooded with unborated water.

B

Spent Fuel Storage Racks SD-041W97

The design of the spent fuel racks provides storage location for up to 1404 fuel assemblies. The storage rack consists of a rectangular array of modules, as shown on Figure 8 and 9. Region I modules are arrayed on a 10.6 inch center to center spacing. Region II modules have a 9 inch spacing. The restriction on Region I allows the, maximum enrichment loading for fuel assemblies to be 4.5 weight percent of U-235. For Region II the stored fuel is required to meet burnup requirements (1.6 w/o U-235) as listed in Table 3.17-1 of Tech. Specs. An encased boron carbide (Boraflex) lining surrounds each individual storage location.

Answer: B

54. W/E02EG2.4.12 001

Operators are performing 3-EOP-ES-1.1, "SI Termination." The following conditions exist:

- ⌈ Containment radiation levels are 1.5E3 R/hr.
- ⌈ Containment temperature is 160 F.
- ⌈ Pressurizer level is 33%.

Operators are unable to open CV-3-204, Letdown from Regen Heat Exchanger Isolation.

Which one of the following describes the correct operator response?

- A. Manually open the bypass around CV-3-204 and use one pressurizer PORV for subsequent RCS depressurization.
- B. Manually open the bypass around CV-3-204 and restore normal letdown flow when adverse containment conditions no longer exist.
- C. Establish excess letdown and continue attempts to establish normal letdown.
- D. Establish excess letdown and use auxiliary spray (CV-3-311) for subsequent RCS depressurization.

C

REFERENCE: 3-EOP-ES-1.1, Step 9 5613-M-3047, Sheet 1

Answer: C

55. 001G2.1.2 001

Unit 3 is at 90% power with all rods fully withdrawn when the unit RCO receives the following annunciators:

- C B 7/1 NIS RPI ROD DROP/ROD STOP
- C B 6/4 POWER RANGE CHANNEL DEVIATION
- C B 9/3 SHUTDOWN ROD OFF TOP/DEVIATION
- C B 2/2 POWER RANGE UPPER DET/AUTO DEFEAT
- C B 2/3 POWER RANGE LOWER DET/AUTO DEFEAT

The RCO observes the RPI indicators and rod bottom lights and determines two rods in the same rod bank group have fully inserted.

Which one of the following describes the appropriate course of action to be taken ?

- A. Check QPTR to be less than OR equal to 2%.

- B. Trip the Reactor and enter 3-EOP-E-0, "Reactor Trip or Safety Injection."
- C. Increase reactor power to maintain Tave within 3 degrees of Tref.
- D. Increase turbine load to maintain Tave within 3 degrees of Tref.

A.

ONOP-028.3 page 5 step 4

Attach core drawing to show location of control rods

- B. Not required because both rods are in the same group
- C. Caution prohibits increase in reactor power while performing this procedure
- D. Reducing turbine load is permitted

Answer: A

56. 003A1.10 001

Which one of the following describes the effect of decreasing VCT pressure from 30 psig to 10 psig during RCS heatup in Mode 3?

- A. Charging Pumps will cavitate.
- B. RCP #2 seal flow decreases.
- C. Letdown flow increases.
- D. High RCP standpipe level alarm actuates.

B

#/4-OP-047.1 P&L 4.2, 4.15.3

The >15 PSIG VCT pressure is based on maintaining sufficient backpressure on the Reactor Coolant pump No. 1 seals. The back pressure on No. 1 seals is the summation of piping flow resistance in the seal water return lines and VCT pressure. Increased back pressure could cause a reduction in No. 1 seal water flow. Therefore the # 2 seal flow will decrease if the backpressure on the # 1 seal decreases.

Answer: B

57. 075K1.02 001

Which one of the following identifies the minimum number of Circulating Water Pumps that must be in operation to satisfy the interlock that allows a radioactive liquid release?

- A. 0
- B. 1
- C. 2
- D. 3

b.

REFERENCE: 5613-M-3010, Sheet 1

When discharging from the rad waste facility monitor tanks, valve 1804 is opened to the waste release header, RCV-18 is opened, and then valve 4749 is opened and throttled to obtain the proper liquid waste release flow rate as indicated on FI-1064. R-18 count rates should be continuously monitored during the release. An expected count rate for R-18 is calculated by the

chemists. During the release, R-18 response is verified by comparing actual count rate to the expected count rate. Start and stop times, tank levels, and the R-18 count rate are recorded on the release permit. Should R-18 exceed its alarm setpoint during the discharge, the monitor tank pump is stopped and RCV-18 and valve 4749 are closed. The Nuclear Plant Supervisor is then notified. When the tank being released reaches its low level alarm setpoint, the transfer pump automatically stops and the lineup is then return to normal. RCV-18 is closed, valve 4749 is closed and locked, and valve 1296 or 1804 is closed.

Answer: B

58. 017A1.01 001

Plant conditions:

- C A reactor trip with a loss of all AC power occurred 2 hours ago.
- C Core exit thermocouples read approximately 650 degrees F and increasing.
- C Steam generator pressure is stable at 815 psig.
- C Steam generator steam flow is undetectable.

Which ONE of the following describes plant conditions?

- A. Loss of natural circulation flow has occurred.
- B. Natural circulation flow is increasing.
- C. The reactor core has uncovered and core damage is imminent.
- D. Reactor Coolant System subcooling margin is increasing.

A

REFERENCE

LP 6902324, 3/4-EOP-ES-0.1 Attachment 1

E.O. 2 of LP 6902324

NRC Exam Bank - T Pt 1996/06/17

Answer: A

59. W/E05EK2.1 001

Unit 3 operators have entered FR-H.1 "Response to Loss of Secondary Heat Sink".

The following conditions exist:

- C No Main Feedwater Pumps are available.
- C No Auxiliary Feedwater Pumps are available.
- C The RCP's are off.
- C Annunciator E-2/6 HI-HI SG LVL TURBINE TRIP/FEEDWATER ISOLATION is in alarm.
- C The operators are preparing to re-establish feedwater using the Standby Steam Generator Feedwater Pump.

Which one of the following identifies the minimum signals that must be reset to satisfy the interlocks to re-establish feed flow to the Steam Generators?

- A. Reset SI
- B. Reset Phase A

- C. Reset Feedwater Isolation
- D. Reset Feedwater Isolation and SI

C

Feedwater isolation will reset with either initiating signal still in., Drawing 5610TL1

Answer: C

60. 026A2.03 001

Unit 4 experienced a Design Basis LOCA. The 4B sequencer failed to operate.

Which one of the following describes the required operator response to verify Containment Spray operation?

- A. Manually start the 4B CSP. Manually open MOV-4-880B.
- B. Manually start the 4B CSP. Check MOV-4-880B automatically opened.
- C. Check autostart of the 4B CSP. Manually open MOV-4-880B.
- D. Check autostart of the 4B CSP. Check MOV-4-880B automatically opened.

b.

REFERENCE: 5610-T-L1, Sheet 11 and Sheet 131a.

EOP-E-0, Step 14

SD - 025W7

Adequate containment heat removal capability is provided by two separate, full capacity, engineered safety feature systems. The design basis for containment heat removal, and the basis for containment pressure transient calculations in the FSAR, chapter 14, safety analysis, assumes that at least one of the three ECCs and a containment spray pump are operable for post-LOCA heat removal and that the second ECC will be running within the first 24 hours following the accident. The temperature and pressure profiles generated by the chapter 14 analysis were used as the basis for equipment qualification.

One train of containment spray OR two of the three ECCs could provide the heat removal capability to maintain the post accident containment temperature and pressure below the design values. However, the design and licensing basis LOCA analysis assumes the use of both redundant systems. This design basis was used for equipment qualification inside containment.

At least one of the three ECCs work in conjunction with one train of containment spray to maintain the containment temperature and pressure within the design basis equipment qualification envelopes. The second ECC must be running within 24 hours to ensure these qualifications are maintained over the long term.

Answer: B

61. 014K4.05 001

Which one of the following solid state protection system rod control interlocks (rod stops) and their coincidences is correct?

Rod Stops

Coincidence

A.	Power range High Flux		2/4
OPDT Setpoint matches Actual DT Coincidence		2/3	
B.	Power range High Flux		1/4
OPDT Setpoint matches Actual DT Coincidence		2/3	
C.	Power range High Flux		2/4
OPDT Setpoint matches Actual DT Coincidence		1/2	
D.	Power range High Flux		1/4
OPDT Setpoint matches Actual DT Coincidence		1/2	

b

Reference: SD 005/SYS.027A, 028A, Figure 12, 5610-T-LI sht 21

Answer: B

62. G2.1.22 001

Operators are performing a reactor startup on Unit 3. The ECC predicts criticality at D-100.

Which one of the following identifies the rod height closest to the point at which operators will announce entry into Mode 2?

- A. C-93
- B. C-110
- C. D-83
- D. D-100

A

REFERENCE: 0-OSP-040.4, Step 11.2 PCB Section 2, Fig. 5 Unit 3 Cycle 18 û 10,000 MWD/MTU

Answer: A

63. 012K2.01 001

The power supplied to AMSAC from both Vital Buses 3P06 and 3P07 has been lost. What effect will this have on AMSAC and its components?

A. AMSAC will not actuate, and will not be capable of actuation, however, the RPS will perform its safety functions without interference from AMSAC.

B. AMSAC will not actuate initially, however, it will automatically switch to an alternate power supply and will be fully functional.

C. AMSAC will actuate, and the RPS will perform its safety functions without interference from AMSAC.

D. AMSAC will not actuate and will not be capable of actuation, and the loss of the AMSAC will disarm any loss of Channel III and /or IV First Stage Turbine Pressure Signal (after 360 seconds).

A

SD 063/SYS. 049, 063

Failure Modes And Effects Analysis (FMEA)

This FMEA demonstrates that AMSAC will not spuriously actuate given a single failure of any electrical component which provides input to AMSAC and that loss of power supplied to AMSAC and its components will not actuate AMSAC.

The AMSAC is a backup for the Reactor Protection System (RPS) during an ATWS event and is considered non-safety related. The AMSAC has been designed such that in the event of AMSAC power failure the AMSAC will not actuate, as the circuitry will actuate only when energized. Failure of the AMSAC to actuate shall not adversely affect any existing plant systems or components. In addition, electrical isolation devices internal to the AMSAC cabinet supply a protective interface between the non-safety AMSAC and the eight safety related inputs and two safety related outputs. This isolated safety-non-safety boundary assures that an electrical failure of AMSAC will not affect the equipment on the safety related side of the isolators. By the use of this protective isolation and adding the AMSAC "energize to actuate" control signals parallel to the existing control initiating circuitry, the RPS will perform its safety functions without interference from AMSAC, whether or not AMSAC is actuated. Refer to Table 2.

Failure of any First Stage Turbine Pressure Signal (Channel III and /or IV)

Loss of signal will disarm AMSAC (after 360 seconds)

Loss of Vital Power 3P06 (S/G level Channel I), 3P07 (S/G level channel II).

The AMSAC processor will not initiate an actuate signal if power is lost to these power sources. This part of the inherent logic of the processor and will give AMSAC trouble alarm on 3C04. Also check control board indicators for trouble.

Answer: A

64. 011EA1.17 001

While in Mode 4 Unit 3 experienced a LOCA.

⌘ Operators are performing 3-ONOP-041.7, "Shutdown LOCA [Mode 3 (Less than 1000 psig) or Mode 4]."

⌘ One HHSI pump has been started.

⌘ CET temperatures are stable and RCS Hot Leg temperatures are decreasing slightly.

⌘ RVLMS Plenum indication is 0%.

Which one of the following identifies the required operator response and the reason for that response?

- A. Immediately start all HHSI pumps to fill the upper head.
- B. Immediately start all HHSI pumps to restore core cooling.
- C. Start additional HHSI pump(s) one at a time, as necessary to fill the upper head.
- D. Start additional HHSI pump(s) one at a time, as necessary to restore core cooling.

ANSWER:

c

REFERENCE: 3-ONOP-041.7, Step 15

3-ONOP-041.7, Shut Down LOCA., Step 15.

- A. Only required if RCS hot legs are not stable
- B. Only required if RCS temperature is increasing
- C. Required because upper head is voided
- D. Note prior to step, directs operator to only start ONE charging pump at a time and allow the plant to stabilize before starting additional pumps.

Answer: C

65. 073A2.02 001

Containment Air Particulate Monitor Channel (R-11) is reading erratically. The instrument technicians report that the lead for the power supply has come loose. As he reconnects the lead, the instrument momentarily goes off scale high and upon reconnecting the lead, the instrument returns to its normal value. What are the consequences of the instrument technicians actions?

- A. The containment purge supply and exhaust fans trip. The containment purge supply and exhaust isolation valves close. The control room ventilation is in recirculation mode.
- B. The containment purge supply and exhaust fans remain running. The containment purge supply and exhaust isolation valves close. The control room ventilation is in recirculation mode.
- C. The containment purge supply and exhaust fans trip. The containment purge supply and exhaust isolation valves remain open. The control room ventilation remains in normal alignment.
- D. The containment purge supply and exhaust fans remain running. The containment purge supply and exhaust isolation valves close. The control room ventilation remains in normal alignment.

A

From Process radiation monitors SD

Containment Air Particulate Monitor Channel (R-11) and Radioactive Gas Monitor Channel (R12)

The alarm setpoints for R-11 and R-12 are based on the containment purge exhaust rate. These setpoints are determined by the radiochemist, and adjusted (per his instructions) by the I&C Department. The alarm setpoints for these monitors are determined from Technical Specifications. A high alarm condition on either of these channels initiates a containment ventilation isolation. In order to reset the containment ventilation isolation signal, containment radioactivity must be reduced below the specified setpoint and the lockout relays associated with containment ventilation isolation, located on relay racks QR50 and QR51 behind VPB, must be reset. The containment ventilation isolation signal isolates the containment ventilation by tripping the containment purge supply and exhaust fans, closes the containment purge supply and exhaust isolation valves, closes the instrument air bleed valves, and places the control room ventilation in recirculation mode.

Answer: A

66. G2.2.23 001

Which one of the following identifies when AFW System Tech. Specs. are applicable and when operability is demonstrated?

	Applicability	Demonstrate Operability
A.	Modes 1 & 2	Prior to entering Mode 1
B.	Modes 1 & 2	Prior to entering Mode 2
C.	Modes 1, 2 & 3	Prior to entering Mode 1
D.	Modes 1, 2 & 3	Prior to entering Mode 3

c.

REFERENCE: Tech. Spec. 3/4.7.1.2
Answer: C

67. 055EA2.01 001

With both units initially at 100% power and normal system alignments, the switchyard deenergizes resulting in a Loss of Offsite Power to both units.

- Both Unit 3 EDGs locked out and cannot be restarted.
- Both Unit 4 EDGs automatically started and reenergized their respective 4kV buses.
- The ANPS directs the BOP to restore power to the 3A 4KV bus first.

Which one of the following identifies the source of power that operators will align to the 3A 4KV bus?

- A. 4A EDG via the 3D and 4D 4kV Buses.
- B. 4B EDG via the 3D and 4D 4kV Buses.
- C. 3C 4kV Bus.
- D. Unit 4 Startup Transformer.

b.

REFERENCE: 3-ONOP-004.2, Steps 8 - 15
Answer: B

68. 007A2.02 001

Operators are performing 3-OP-041.3, Section 7.2, "Reducing PRT Liquid Temperature." Annunciator A 7/1, PRT HI/LO LEVEL HI PRESS/TEMP, alarms.

The RCO observes the following PRT parameter values:

PRT Temperature: 105 F

PRT Level: 69 %

PRT Pressure: 12 psig

Which ONE of the following identifies correct operator response?

- A. Continue with Section 7.2, "Reducing PRT Liquid Temperature."
- B. Raise PRT level by performing Section 5.1, "Establishing Normal Conditions."
- C. Lower PRT level by performing Section 7.1, "Draining the PRT."
- D. Lower PRT pressure by performing Section 7.3, "Purging/Reducing PRT Pressure."

ANSWER:

d

REFERENCE: 3-OP-041.3 CAUTION before Step 7.2.1, 3-ARP-097.CR A7/1

Answer: D

69. 001AK1.17 001

Operators have successfully completed Immediate Actions in response to an uncontrolled rod withdrawal with reactor power initially at 85%.

The following stable conditions now exist:

Reactor Power: 87%

Tavg: 574 F

Tref: 570 F (same as pre-event value)

RCS boron Concentration: 270 ppm (same as pre-event value)

Which one of the following is correct regarding the effect of this event on the Moderator Temperature Coefficient (MTC) and the potential effect on subsequent operations?

- A. MTC has become more negative. A subsequent cooldown would add positive reactivity.
- B. MTC has become more negative. A subsequent cooldown would add negative reactivity.
- C. MTC has become less negative. A subsequent cooldown would add positive reactivity.
- D. MTC has become less negative. A subsequent cooldown would add negative reactivity.

C

T-D dwg 5610-T-D-18A; System descriptions SD 005/SYS.027A, 028A pages 30 and 31

Answer: A

70. 069EK3.01 001

Operators have performed 3-EOP-ECA 1.1, "Loss of Emergency Coolant Recirculation" and are now responding to high containment pressure using 3-EOP-FRZ.1, "Response to High Containment Pressure." Both procedures have criteria for using containment spray. Which one of the following states which procedure has precedence and its basis?

The operation of the containment spray pumps indicated in procedure....

A. 3-EOP-ECA 1.1 takes precedence over the guidance of 3-EOP-FR-Z.1 because it conserves RWST water, if possible, by stopping containment spray pumps.

B. 3-EOP-ECA 1.1 takes precedence over the guidance of 3-EOP-FR-Z.1 because it ensures the maximum available heat removal system operability in order to reduce containment pressure.

C. 3-EOP-FR-Z.1 takes precedence over the guidance of 3-EOP-ECA 1.1 because it conserves RWST water, if possible, by stopping containment spray pumps.

D. 3-EOP-FR-Z.1 takes precedence over the guidance of 3-EOP-ECA1.1 because it ensures the maximum available heat removal system operability in order to reduce containment pressure.

A.

BASIS DOCUMENT Page 11 BD-EOP-FR-Z.1 RESPONSE TO HIGH CONTAINMENT PRESSURE

Procedure ECA-1.1 uses a less restrictive criteria, which permits reduced spray pump operation depending on RWST level, containment pressure and number of emergency fan coolers operating. level, containment pressure and number of emergency fan coolers operating.

The less restrictive criteria for containment spray operation is used in procedure ECA-1.1 since recirculation flow to the RCS is not available and it is very important to conserve RWST water, if possible, by stopping containment spray pumps.

Answer: A

71. 040EG2.4.6 001

Operators have entered 3-EOP-E-0 due to a Steam Line break. Step 13 of 3-EOP-E-0 states:

Check if Main Steam lines should be isolated.

Which one of the following conditions would require closing the MSIVs in this situation?

A. High steam flow and high Tav_g

B. Low steam flow and low Tav_g

C. Low Tav_g and Hi Hi containment pressure

D. Low Tav_g and Low S/G pressure

C

REF EOP-E-0, step 13 and basis document

A. Requires high steam flow and low tav_g or low steam generator pressure. Does not have low Tav_g. Would be a small break with feedwater isolation.

- B. Requires high steam flow and low tavg or low steam generator pressure. Does not have high steam flow. A break before the flow sensors.
- C. A break inside containment. Hi Hi containment pressure would cause the isolation
- D. Requires high steam flow and low tavg or low steam generator pressure. Does not have high steam flow. A break where the flow sensors do not respond..

Answer: C

72. 051AA1.04 001

Unit 3 is at 100 % power when the Main Turbine slowly begins losing vacuum. Operators enter 3-ONOP-014, "MainCondenser Loss of Vacuum", but are unable to immediately start the SJAE hogging jets. Operators then go to 3-GOP-103, "Power Operatio to Hot Standby," and begin a power decrease.

The following conditions exist:

- Initial condenser vacuum was 28 inches
- Vacuum was lost at a rate of 1/2 inch per minute.
- The decrease continued for 8 minutes until the SJAE hogging jets were started
- Vacuum then recovered at a rate of 1/2 inch per minute.
- The rate of load decrease was 35 MWT per minute and remained constant until two minutes after the SJAE hogging jets were restarted.

Which one of the following indicates the approximate power level when SJAE hogging pumps were started and were any condenser vacuum limitations violated?

- A. The approximate power level when the SJAE hogging jets were started was 52 % and no operational limits associated with the condenser vacuum were violated.
- B. The approximate power level when the SJAE hogging jets were started was 52 % and operational limits associated with the condenser vacuum were violated.
- C. The approximate power level when the SJAE hogging jets were started was 62 % and no operational limits associated with the condenser vacuum were violated.
- D. The approximate power level when the SJAE hogging jets were started was 62 % and operational limits associated with the condenser vacuum were violated.

C

At 8 minutes the power level had dropped 280 MW 280/728 is ~ 62% power. The power decrease continued, however the vacuum recovered before reaching the region where operations is not allowed.

- A. Power level based on 12 minutes, not 10. Misreading the curve to determine operational limits had been violated.
- B. Power level based on 12 minutes, not 10.
- C. Correct answer
- D. Misreading the curve to determine operational limits had been violated.

Provide 3-ONOP-014 curve

Answer: C

73. 062AA2.04 001

Unit 4 is operating at 100% power with two ICW pumps running. One pump trips and flow through the remaining ICW Pump is 20,500 GPM. An attempt to adequately reduce ICW total flow by throttling the TPCW Hx Outlet ICW isolation valve and the CCW Hx Outlet Spool piece valve was unsuccessful.

Which one of the following describes your required actions?

A. Reduce unit load using 3-GOP-103 to limit heat input into the TPCW system AND throttle ICW flow to the TPCW system heat exchangers using 3-50-401 until TPCW heat exchanger outlet temperature is less than 105 degrees and the total ICW flow is less than 19000 GPM.

B. Reduce unit load using 3-GOP-103 to limit heat input into the TPCW until the TPCW heat exchanger outlet temperature is below 105 degrees. DO NOT throttle ICW flow to the TPCW system heat exchangers using 3-50-401 until the total ICW flow is less than 19000 GPM.

C. Reduce unit load using 3-GOP-103 to limit heat input into the TPCW system AND adjust ICW flow to the TPCW system heat exchangers using 3-50-401 until the TPCW heat exchanger outlet temperature is below 120 degrees.

D. Adjust ICW flow to the TPCW system heat exchangers using 3-50-401 until the TPCW heat exchanger outlet temperature is below 120 degrees, DO NOT reduce unit load.

A

B, C, D all have actions that are not required and have the wrong system temperature, the limit is 105.

3-ONOP-019 Intake Cooling Water Malfunction

Step 4 Verify Intake Cooling Water Pumps -TWO RUNNING

RNO - Perform the following:

Manually start any available Intake Cooling Water Pump to establish TWO RUNNING.

b) IF only one ICW Pump is operating AND total ICW flow is greater than 19,000 GPM, THEN immediately reduce total ICW flow by:

C Throttling TPCW HX Outlet Combined ICW Iso Vlv 3-50-401 while maintaining TPCW Heat Exchanger outlet temperature less than 105 degrees.

C Throttle 3-50-406, CCW HX Outlet Spool Piece Bypass Valve, and/or 3-50-407, CCW HX Outlet Spool Piece Iso Vlv, while maintaining minimum ICW flows through the CCW Heat Exchangers as determined by Enclosure 1 of 3-OP-019, INTAKE COOLING WATER SYSTEM.

c) IF unable to reduce total ICW flow through a single ICW Pump to less than 19,000 GPM, THEN reduce Unit Load using 3-GOP-103, POWER OPERATION TO HOT STANDBY, to limit heat input into the TPCW system and throttle ICW flow to the TPCW Heat Exchangers using TPCW HX Outlet Combined ICW Iso Vlv 3-50-401 until total ICW flow is less than 19,000 GPM.

d) IF a single ICW Pump has operated at flows greater than 19,000 GPM, THEN refer to 3-OP-019, INTAKE COOLING WATER SYSTEM.

Answer: A

74. G2.4.5 001

The RCO desires to enter a procedure at step 10. Which one of the following conditions would prevent this?

A. The existing plant conditions are different from those required by the procedure to perform the entry step.

B. All steps prior to the entry point are marked "N/A."

C. The NPS or cognizant Department Supervisor has approved and documented the entry point including the reason for the special entry point.

D. The entry point and reason for the entry point is documented in the remarks section of the procedure.

A

REF: 0-ADM-201, section 5.2

SOURCE: TP Bank for ADM-201, Q 69020030406/Q8

Answer: A

75. G2.4.6 001

Select the EOP(s) that can be entered directly:

A. E-0 only

B. E-0 and FR-S.1

C. E-0 and ECA-0.0

D. E-0, ECA-0.0 and FR-S.1

C

Entry conditions

Answer: C

76. 015K6.02 001

Manual calibration of the NIS is being performed in accordance with 3-OSP-059.5, "Power Range Nuclear Instrumentation Shift Checks and Daily Calibration." Feedwater average temperature is incorrectly calculated to a value 30 degrees less than actual. For these conditions which ONE of the following is correct?

Calculated reactor thermal power will be:

A. LOWER than actual power AND a gain adjustment of the NIS channels using the calculated value would be CONSERVATIVE (indicated power closer to the setpoints).

B. LOWER than actual power AND a gain adjustment of the NIS channels using the calculated value would be NON CONSERVATIVE (indicated power farther from the setpoints).

C. HIGHER than actual power AND a gain adjustment of the NIS channels using the calculated value would be CONSERVATIVE (indicated power closer to the setpoints).

D. HIGHER than actual power AND a gain adjustment of the NIS channels using the calculated value would be NON CONSERVATIVE (indicated power farther from the setpoints).

C

SD004, EXCORE NUCLEAR INSTRUMENTATION, page 7374 3OSP59.5, POWER RANGE NUCLEAR INSTRUMENTATION SHIFT CHECKS AND DAILY CALIBRATION, Attachment 5 1992/04/20 Turkey Point 3 & 4 Modified stem, answer and all three distractors

Answer: C

77. 079G2.2.27 001

During refueling, the Unit 3 instrument air system is being supplied by an electric driven air compressor. Which one of the following conditions will cause the compressor to shut down and be locked out from restarting?

- A. High LP (first stage) air outlet temperature
- B. low HP (second stage) air inlet temperature
- C. High oil pressure
- D. high air outlet flow

A.

From System Description SD 155/SYS. 013, 101: Page 11

The compressor will shut down (and be locked out from restarting) under any of the following conditions:

high LP (low pressure) air outlet temperature (446)
high HP (high pressure) air outlet temperature (446)
high HP (high pressure) air inlet temperature (194)
low oil pressure (20 PSI)
overload

Answer: A

78. G2.3.4 001

According to 0-ADM-600, "Health Physics Manual," which one of the following radiation exposures is an NRC exposure limit?

- A. 2.5 rem/yr TEDE to the whole body.
- B. 7.5 rem/yr to the lens of the eye.
- C. 18.75 rem/yr shallow dose equivalent to the hands and forearms.
- D. 50 rem/yr shallow dose equivalent to the skin of the whole body.

D

REF: ADM-600, Attachment 1

SOURCE: modified Q 69020200903/q 109 of ADM section of bank.

Changed correct answer to D, changed distractor A (formerly the correct answer)

a. incorrect - 5 rem/yr

b. incorrect - 15 rem/yr

- c. incorrect - 50 rem/yr
- d. correct

Answer: D

79. 027K5.01 001

Removal of iodine from containment due to a large break LOCA is essentially complete two hours after actuation of the emergency containment filtering system (ECF).

Which one of the following describes why filter fan operation is necessary for up to 72 hours?

- A. Remove heat from containment.
- B. Remove radioactive particulate from containment.
- C. Remove iodine decay heat from ECF charcoal beds.
- D. Remove iodine decay products from containment atmosphere.

C

*REFERENCE

TURKEY PT: SD 029, page 12
1991/09/30 Turkey Point 3 & 4

Answer: C

80. 013K3.01 001

Operators have completed EOP-ES-1.3, "Transfer to Cold Leg Recirculation."

CET temperatures are stable.

The following events occur:

- ⌞ The switchyard deenergizes resulting in a LOOP.
- ⌞ All plant systems respond as designed.

Assuming no operator action, which one of the following describes the effect on CET temperatures and the reason for that effect?

CET temperatures will:

- A. decrease. Additional SI flow to the RCS will be established.
- B. remain the same. SI flow to the RCS will remain unchanged.
- C. increase. SI flow to the RCS has been terminated.
- D. increase and then stabilize. SI flow to the RCS was momentarily interrupted.

ANSWER:

c.

REFERENCE: Logic Sheet 5613-T-L1, Sheet 12A
E-1, ES-1.3 Foldout Page

Answer: C

81. 003A3.01 001

Unit 3 has had an inadvertent Phase A Containment Isolation Actuation. Which one of the flow paths describes the effect on RCP seal leakoff flow? Assume no operator actions. Leakoff flow is:

- A. diverted to the suction of the charging pumps.
- B. isolated.
- C. diverted to the PRT.
- D. diverted to the VCT.

C

SD008, 3/5/93, page 12 & LPEO 5.

SG13-M-3047 Sheet 3

1994/02/28 Turkey Point 3 & 4 The seal water return line is equipped with a motor operated isolation valve (MOV-381) located outside the containment and a motor operated isolation valve (MOV-6386) located inside containment. These valves will automatically be closed on phase A of the containment isolation scheme and can be opened or closed manually from the control panel (VPA) in the control room. In the event of overpressure on the seal water return line, relief valves in the containment will relieve at 150 PSIG to the pressurizer relief tank.

Answer: C

82. 071K4.05 001

Gas Decay Tank "A" is in service when the relief valve on that tank lifts and fails to reseal.

Which one of the following is correct?

- A. The release will be automatically isolated by RCV-014 when R-14, Plant Vent Monitor, alarms.
- B. R-14, Plant Vent Monitor, will alarm and trip both Auxiliary Building exhaust fans, terminating the release.
- C. The release will not be automatically isolated, but monitored by R-14, Plant Vent Monitor.
- D. The release will be automatically isolated by the Unit 3 SFP Vent SPING4 Monitor.

C

DRWG 5610TE4517, SHT. 1

SD068, RADIATION MONITORING AND PROTECTION, page 30.

1992/04/20 Turkey Point 3 & 4, New distractor D

Answer: C

83. 035A4.06 001

Unit 3 has experienced a steam generator tube rupture. Operators have entered 3-EOP-E-3, Steam Generator Tube Rupture. Which one of the following is the correct order to perform the recovery actions?

A. Isolate the ruptured steam generator, reduce primary system temperature, then reduce primary system pressure.

B. Isolate the ruptured steam generator, reduce primary system pressure, then reduce primary system temperature.

C. Reduce primary system temperature, reduce primary system pressure, then isolate the ruptured steam generator.

D. Reduce primary system pressure, reduce primary system temperature, then isolate the ruptured steam generator.

A

EOP-E-3 WOG Major Action Categories

System Description - Therefore, it is important to identify and isolate the ruptured steam generator and reduce RCS temperature and pressure below the setting of the steam generator safety valves, 1085 PSIG. RCS temperature, then pressure, are lowered, maintaining the coolant in a subcooled condition. Cooldown and depressurization of the S/G and RCS would be continued until RHR could be initiated.

Answer: A

84. 061K4.07 001

Following a mechanical overspeed trip of an AFW pump, which one of the following describes the effect on the pump if the governor manual speed control knob is not rotated to the minimum position?

If the governor manual speed control knob is not adjusted, the AFW pump:

A. mechanical overspeed trip mechanism will not reset.

B. may overspeed and trip again on subsequent restart.

C. may overspeed and not trip on subsequent restart.

D. will not attain rated speed on subsequent restart.

REFERENCE: 3-ONOP-075, Attachment 4, Step 5 Basis

SD-117, Page 26

Answer: B

85. 064G2.1.23 001

You are at the Alternate Shutdown Isolation Switch (XS-3DG) mounted on the side of Panel 3C12B1 located on the south wall of the 3B EDG room. You find the switch is in the NORMAL position. In this position the Alternate Shutdown Isolation Switch:

A. will align EDG 3B indications on the Alternate Shutdown Panel.

B. will not remove Control Room EDG Lockout reset pushbutton from circuit.

C. will remove normal lockout circuit fuses and insert backup lockout circuit fuses.

D. will alarm annunciator window F 2/3 REMOTE-LOCAL CONTROL IN LOCAL in the control room.

B

SD-137W97

The Alternate Shutdown Isolation Switch (XS-3DG) is mounted on the side of Panel 3C12B1 located on the south wall of the 3B EDG room. EDG 3A does not have this switch. This switch has two positions, NORMAL and LOCAL. When taken to the LOCAL position, the Alternate Shutdown Isolation Switch will:

Align EDG 3B indications on the Alternate Shutdown Panel.

Remove Control Room EDG Lockout reset pushbutton from circuit.

Remove normal lockout circuit fuses and insert backup lockout circuit fuses.

Alarm annunciator window F 2/3 REMOTE-LOCAL CONTROL IN LOCAL in the control room.

Answer: B

86. G2.1.27 001

Which one of the following includes acceptance criteria for the ECCS following a postulated Loss-of-Coolant Accident, as required by 10 CFR 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear reactors?"

The calculated maximum fuel element cladding temperature shall not exceed:

A. 2200 F and calculated total cladding oxidation at any point shall not exceed 17%.

B. 2200 F and calculated total cladding oxidation at any point shall not exceed 1% of the maximum possible.

C. 2500 F and calculated total cladding oxidation at any point shall not exceed 17%.

D. 2500 F and calculated total cladding oxidation at any point shall not exceed 1% of the maximum possible.

A

REF: SD 021/SYS 050, 062, 064 2/6/98, page 10. 10 CFR 50.46

a. Correct per 10 CFR 50.46

b. Incorrect, in that the 1% number applies to H2 generation, found elsewhere in 50.46

c. Incorrect - 2500 a bad value

d. Incorrect - 2500 a bad value and 1 % applied to the wrong parameter

Answer: A

87. 041A4.05 001

Plant conditions:

- The reactor is critical at 1.0 E-8 amps at the end of core life.
- ONE S/G atmospheric steam dump fails open.

Assume: no operator action

no rod motion

no reactor trip

Which one of the following describes Tave and reactor power five minutes into this transient?

A. Tavg will be greater than initial Tavg, reactor power will be above the point of adding heat.

- B. Tav_g will be greater than initial Tav_g, reactor power will be at the point of adding heat.
- C. Tav_g will be less than initial Tav_g, reactor power will be at the point of adding heat.
- D. Tav_g will be less than initial Tav_g, reactor power will be above the point of adding heat.
- D

TURKEY PT: SD105

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Answer: D

88. G2.4.20 001

While performing 4-EOP-ES-1.3, "Transfer to Cold Leg Recirculation," and after placing the control switches to the CLOSE position for the RHR suction from the RWST valves, MOV-4-862A and MOV-4-862B, the ANPS reads the following CAUTION:

"DO NOT CONTINUE until RHR pump suction is isolated from the RWST"

Which one of the following describes the consequences of continuing in ES-1.3 before the MOV-862 A&B valves are fully closed?

- A. If the containment pressure is greater than the RWST pressure, contaminated sump water will flow from the containment to the RWST.
- B. If an RHR pump is restarted before the MOV-862 A&B valves are fully closed, the RHR pump will not have adequate NPSH.
- C. If high head SI pumps are running, they will short circuit flow back to the RWST, robbing the reactor of cooling flow.
- D. The RHR pumps are interlocked with MOV-862 A&B such that the RHR pumps cannot be started until the MOV's are completely closed.

A

Lesson Plan 330, page 24, ES1.3, caution prior to step 13

Answer: A

89. 006K4.14 001

During the recirculation phase of ECCS operation following a Large Break LOCA on Unit 3, adequate RHR flow can not be verified. Which one of the following actions should be taken?

One HHSI pump is used with suction taken from the:

- A. suction of the RHR pump. The RHR pump will take suction from the normal loop C hot leg suction.
- B. discharge of the RHR pump. The RHR pump will take suction from the normal loop C hot leg suction.
- C. suction of the RHR pump. The RHR pump will take its suction from the containment recirculation sumps.

D. discharge of the RHR pump. The RHR pump will take its suction from the containment recirculation sumps.

Solution: D

Waters source is SUMP. From system description another water source for other situations would be as follows: To fill the cavity, the RHR pump's suction is aligned to the RWST through MOV-862A & B. The discharge is aligned to the cold leg injection headers through MOV-744A & B. When the cavity is full the RHR pump's suction is shifted back to the normal loop C [A] hot leg suction through MOV-750 & MOV-751 and normal decay heat removal is reinitiated.

During the recirculation phase of ECCS operation which would normally only occur after a large break LOCA, the preferred alignment is RHR pumps delivering flow from the recirculation sumps to the RCS with the SI pumps secured. If adequate RHR flow cannot be verified, then the higher head SI pumps are used with suction taken from the discharge of the RHR pumps. The RHR pumps will still be taking their suction from the containment recirculation sumps.

DESCRIPTION NO. 021 EMERGENCY CORE COOLING SYSTEM/(SYS. 050, 062, 064)
EOP-ES-1.3 Step 17 and BD-EOP-ES1.3 page 35

Answer: D

90. 004G2.4.21 001

Operators are monitoring grid instability and are in the process of placing a CVCS mixed bed demineralizer with new resin into service when the RO notes the following primary system parameters:

- C Reactor power is 101.2% and increasing.
- C Tavg is 577 degrees F and increasing.
- C Gross megawatts have increased by 2 MWe without operator action.
- C Rod control is in manual.

Which ONE of the following describes the most probable cause of these plant conditions?

- A. CV-3-2011, Low Pressure Heater Bypass valve has inadvertently opened.
- B. The demineralizer was not sufficiently rinsed in prior to placing it in service.
- C. Only Cation resin was placed in the demineralizer.
- D. Only Anion resin was placed in the demineralizer.

B

3OP047, P&L 4.14
1996/06/17 Turkey Point 3 & 4

Answer: B

91. 062K3.01 001

The West operating buses in the switchyard are connected through the West operating bus tie breaker. A fault occurred on one of the west buses. What will the automatic protection scheme do?

The protection scheme will open and lockout all the breakers connected to:

- A. the failed west bus only, but will not open the tie breaker.
- B. both west buses, but will not open the tie breaker.
- C. the failed west bus only, and open the tie breaker.
- D. both west buses, and open the tie breaker.

C

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The yard consists of four operating buses, the Southeast, the Northeast, the Southwest, and the Northwest. Refer to 5610-TE-1591. The four operating bus scheme provides more flexibility for yard maintenance, and better protection in the event of a fault on one of the buses. The two East operating buses and the two West operating buses are normally connected through circuit breakers and are referred to as the East and West operating bus. Should a fault occur on one of the four buses, the protection scheme will open and lockout all the breakers connected to the bus, and open the tie breaker; thereby, isolating the faulted bus from the other three operating buses. Generator circuit breakers can only be opened or closed from the respective control room or tripped locally at the breaker or by automatic action by protective relaying equipment.

Answer: C

92. 056K1.03 001

During start-up of a main feedpump, the main feedpump ...

- A. must have its discharge valve throttled to 14 turns open.
- B. is allowed two successive starts from rated temperature.
- C. should be allowed to coast to rest between starts.
- D. should be left running for 1/2 hour after two successive starts prior to a third start.

C

SD 112/SYS.073, 074 Page 23 3-OP-074 Step 4.1.4

Answer: C

93. 029A3.01 001

Which one of the following will directly cause a Containment Ventilation Isolation?

- A. Automatic Phase A Containment Isolation Signal
- B. Automatic Phase B Containment Isolation Signal
- C. Safety Injection Signal
- D. Containment High Range Radiation Monitor (CHRRMS) alarm

C

SD-029W7

Containment ventilation isolation trips both supply and exhaust fans and shuts all supply and exhaust butterfly valves. Containment ventilation isolation is initiated by:

- (1) Hi containment activity from R-11 particulate at 6.1×10^5 cpm
- (2) Hi containment gaseous activity from R-12
- (3) Safety Injection Signal (auto or manual initiation)
- (4) Phase A isolation (manual P.B.)
- (5) Phase B isolation (manual P.B.)

Answer: C

94. 056A2.04 001

Which one of the following describes the expected plant response to an overcurrent trip of a running condensate pump at 100% power with the 3C condensate pump out of service?

- A. The associated steam generator feed pump will trip and initiate a turbine runback.
- B. The standby steam generator feed pump will automatically start upon trip of the running condensate pump.
- C. CV-3-2011, LP Heaters Bypass, will automatically open and will maintain adequate suction pressure to run both steam generator feed pumps.
- D. Heater drain pump discharge valves will automatically open and will maintain adequate suction pressure to run both steam generator feed pumps.

A

Dwg. 5610TL1, sheet 28A.

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E.O. 6 of LP 6902122

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Please identify nomenclature for valve CV32011

Answer: A

95. 072A4.01 001

Following an area radiation monitor alarm in the Unit 3 spent fuel pit, which one of the following is a required IMMEDIATE action per 0-ONOP-066, "High Area Radiation Monitoring System Alarm"?

- A. Evaluate process monitors and other ARMs for the affected area.
- B. Notify the SNPO to check local indications.
- C. Identify alarming ARMS channel(s) by pressing the ACK pushbutton on ARMS control panel R-30.
- D. Notify Health Physics to survey the area to determine the source of the radiation.

D

1996/06/17 Turkey Point 3 & 4 New answer and two new distractors
Evaluation:

A and B are not immediate actions

The Immediate actions of 0-ONOP-66 are:

4.0 IMMEDIATE ACTIONS

4.1 Identify alarming ARMS channel(s) by noting individual channel(s) HIGH alarm light(s) illuminated on Area Radiation Monitoring System control panel R-30.

4.2 Announce over the plant page system the area(s) affected AND notify personnel to clear the area until further notice.

4.3 Notify Health Physics to survey the area to determine the source of the radiation.

C is not an immediate action and is prohibited by a procedure NOTE.

NOTE

Do NOT press ALARM ACK pushbutton on ARMS control panel, R-30, until:

1. Personnel have been evacuated from the affected area and entry to the area has been restricted.

OR

2. The alarm has been determined to be an invalid alarm.

Answer: D

96. G2.1.32 001

The following conditions exist:

C Unit 3 is at 100% power.

C 3A EDG surveillance is in progress and 3A EDG is fully loaded.

C The system load dispatcher has notified the site that off-site power is unstable due to severe storms in the area but that the front should move through in 30 minutes.

C Electrical maintenance has requested that Operations start the 3A and stop the 3B condensate pumps to support motor filter change out.

Which one of the following describes a correct operator action in this situation?

A. Authorize swapping condensate pumps to support Electrical maintenance.

B. Defer swapping condensate pumps until 3A EDG surveillance is complete.

C. Stop the EDG surveillance test because the EDG will be overloaded if a SI Signal occurs while it is tied to the bus.

D. Defer swapping condensate pumps until System reports that the severe storms are no longer threatening offsite power.

B

Reference 3-OSP-0231, Caution Prior to Step 29

Answer: B

97. 001A2.16 001

A logic error has sent a simultaneous zero current order to both stationary and movable gripper coils. If this is not detected and corrective action completed before bridge thyristors cut the current to zero, what will occur?

A. There will be excess ripple in the coil voltage.

- B. A dropped rod will occur.
- C. The power cabinet will be overloaded.
- D. The lift coil will be energized preventing motion.

B

SD-005W97

- A. A phase failure occurs because of a loss of thyristor gating or thyristor failure. This will cause excess ripple in the coil voltage.
- B. A logic error is a simultaneous zero current order to both stationary and movable gripper coils. If this is not detected and corrective action completed before bridge thyristors cut the current to zero, a dropped rod will occur.
- C. A multiplexing error occurs when coils not selected by the multiplexing function are receiving current to their movable or lift coils. This assumes stationary coil stays at low current value. This protects against a failed multiplexing thyristor which could cause overloading the power cabinet.
- D. The system will automatically respond to any detected failures by energizing both the stationary and movable gripper coils on low current to try to prevent dropping rods. It will send an inhibit signal to the pulser to stop rod motion, in auto or manual, but still allow individual bank movement. If one of the two groups in the bank is in the affected cabinet it will not move because the stationary and movable gripper will be energized preventing motion.

Answer: B

98. 027AK3.03 001

Following a SGTR, the ANPS transitioned to 3-EOP-ECA-3.3, "SGTR Without Pressurizer Pressure Control." SI was terminated in 3-EOP-FR-P.1, "Response to Imminent Pressurizer Thermal Shock Condition." Step 1 of 3-EOP-ECA-3.3 states:

ôCheck HighHead SI Pumps Any Running.ô

You are then directed to bypass the steps that establish Normal and Auxiliary spray. Which one of the following is the purpose for bypassing these steps?

- A. Immediate need for RCS pressure control no longer exists.
- B. RCS pressure is being controlled by both normal and auxiliary spray that was established in 3-EOP-FR-P.1.
- C. RCS pressure is being controlled only by auxiliary spray that was established in 3-EOP-FR-P.1.
- D. Only normal spray was established in 3-EOP-FR-P.1.
3-EOP-ECA-3.3, and BD-EOP-ECA-3.3

A Correct answer - from BD-EOP-ECA-3.3. - RCS and ruptured generator pressures have equalized through the ruptured steam generator tube and immediate need for RCS pressure control no longer exists. RCS was depressurized to decrease RCS subcooling in 3-FR-P.1.

B. Pressure control is not an immediate concern since the SG and RCS are at approximately the same pressure. RCS was depressurized to decrease RCS subcooling in 3-FR-P.1.

C. Pressure control is not an immediate concern since the SG and RCS are at approximately the same pressure. RCS was depressurized to decrease RCS subcooling in 3-FR-P.1.

D. Pressure control is not an immediate concern since the SG and RCS are at approximately the same pressure. RCS was depressurized to decrease RCS subcooling in 3-FR-P.1

Answer: A

99. W/E08EK2.1 001

Operators are performing 3-EOP-FR-P.1, "Response to Imminent Pressurized Thermal Shock Condition." You cannot verify steam supply is aligned to both trains of AFW pumps from the intact S/Gs. Which one of the following describes the procedurally required actions for this condition?

A. Dispatch operator to close AFW pump steam supply MOV breaker on faulted S/G.

B. Dispatch operator to open pump steam supply MOV on faulted S/G.

C. Isolate steam flow to AFW pumps while repositioning AFW steam supply cross-connect valves to provide steam to intact S/Gs.

D. Maintain steam flow to AFW pumps while repositioning AFW steam supply cross-connect valves to provide steam to intact S/Gs.

D

A. This is required to be open, but only after Maintain steam flow to AFW pumps while reposition AFW steam supply cross-connect valves to provide steam to intact S/Gs is completed.

B. This is required to be closed, but only after Maintain steam flow to AFW pumps while reposition AFW steam supply cross-connect valves to provide steam to intact S/Gs is completed.

C. Step 3, EOP-RF-P.1, maintain steam supply while repositioning cross connect

D. Correct answer

Answer: D

100. 059A4.11 001

Unit 3 experienced a LOCA resulting in SI actuation. Reactor trip breakers failed to open and all attempts to open the reactor trip breakers have been unsuccessful.

All S/G levels are below the narrow range.

While in FR-S.1, "Response to Nuclear Power Generation/ATWS," operators reset SI.

Which one of the following describes the effect on the feedwater flow control valves when SI is reset and the correct operator response?

The feedwater flow control valves will:

- A. reopen. Place the feedwater flow controllers in Manual and close the valves.
- B. reopen. Allow the feedwater flow control valves to remain open to restore S/G level.
- C. remain closed. Place the feedwater flow controllers in Manual and open the valves to restore S/G level.
- D. remain closed. Allow the feedwater flow control valves to remain closed.

A

REFERENCE: EOP-FR-S.1, CAUTION before Step 7
EOP-E-O, Step 5
5610-T-L1, Sheet 14

Feedwater Heater Bypass

The low pressure feedwater heaters can be paralleled by flow through CV 2011 in the event of low suction pressure to the feedwater pumps. Refer to Figure 1. Control valve CV2011 is actuated to open by pressure switch PS2011 or PS2014 when feedwater pump suction pressure drops to 220 PSIG. In the open direction, CV2011 has a fast response time and goes to full open almost immediately. The opening of CV2011 parallels the LP heaters and supplies condensate directly to the suction of the feedwater pumps. CV2011 is also actuated by PS1604 with a fast load reduction. Maintain CV2011 open until the load reduction stops or until the feedwater pump suction pressure increases to above 226 PSIG at which time it is manually closed by means of the control switch. In the close direction, CV2011 is adjusted to close slowly. It takes 60 seconds for the valve to go fully closed. The valve does not automatically close.

Answer: A