

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 1

QID: 0770

The following conditions exist immediately after a reactor trip:

- Group 2, Rod 4 and Rod 5 failed to fully insert into the core
- RCS pressure is at 1730 psig
- Pressurizer level is at 50 inches
- A OTSG pressure is at 910 psig
- B OTSG pressure is at 905 psig
- CETs are 560°F and stable
- Turbine Trip Solenoid Power Available light is OFF

Which action is the operator required to perform FIRST in response to the given information as well as the reason for the action?

- A. Manually actuate MSLI for affected SG(s) and EFW due to loss of D01.
- B. Commence emergency boration per RT-12 due to stuck rods.
- C. Trip all Reactor Coolant Pumps due to loss of subcooling margin.
- D. Initiate High Pressure Injection per RT-2 due to low pressurizer level and low RCS pressure.

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Question No. 2

QID: 0771

Given:

- Pressurizer Spray fails open and the ATC operator was able to close the Spray valve and stopped the Reactor Coolant system pressure decrease.
- Annunciator alarm PZR HEATER GROUND FAULT (K09-E3) comes in.
- RCS pressure response abnormally slow with Pressurizer heaters energized.
- Maintenance is requested to perform Unit 1 Emergency Powered Pressurizer Heater Checkout (1307.009) to determine operability of vital powered pressurizer heaters

Which heaters groups are the vital powered pressurizer heaters, and which KW output of the vital powered heaters will satisfy the operability requirements of Technical Specification 3.4.9?

- A. Group 1 proportional heaters, Group 2 proportional heaters, Group 4 heaters, 124 KW output.
- B. Group 1 proportional heaters, Group 2 proportional heaters, Group 5 heaters, 128 KW output
- C. Group 1 proportional heaters, Group 3 heaters, Group 5 heaters, 124 KW output
- D. Group 2 proportional heaters, Group 4 heaters, Group 5 heaters, 128 KW output

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Question No. 3

QID: 0772

Given:

Small break LOCA has occurred.

The Reactor building sump is filling at a rate of 2%/minute.

Reactor Building sump level is 44%

What is the RCS leak rate and with the leak size remaining steady how long can the Reactor building sump be used for an accurate leak rate calculation?

- A. RCS leak rate approximately 91 gpm, and the RB sump level can be used for 3 minutes.
- B. RCS leak rate approximately 91 gpm, and the RB sump level can be used for 8 minutes.
- C. RCS leak rate approximately 45 gpm, and the RB sump level can be used for 3 minutes.
- D. RCS leak rate approximately 45 gpm, and the RB sump level can be used for 8 minutes.

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Question No. 4

QID: 0198

Given:

- A large break LOCA has occurred.
- Offsite power has been lost.

Why must Reactor Building Spray flow be throttled to 1050-1200 gpm prior to transferring to Reactor Building sump suction?

- A. To ensure adequate NPSH for ECCS pumps.
- B. To prevent pump runout on the Spray pumps.
- C. To prevent overloading EDGs on transfer.
- D. To reduce radiation levels near RB Spray piping.

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Question No. 5

QID: 0609

Which of the following indications would require stopping a Reactor Coolant Pump?

- A. Seal cavity pressures oscillating at 600 psi peak to peak
 - B. Seal bleedoff temperature 160°F
 - C. Seal bleedoff temperature 60°F above 1st stage seal temperature
 - D. Failure of one stage as indicated by zero stage DP
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Question No. 6

QID: 0773

Given:

- The RCS is drained to 374 feet for seal replacement.
- RCS Temperature 140 F.
- RCS pressure is 10 psig.
- RCS leakage measured at 50 gpm.
- "A" Decay Heat Pump has been stopped and CV-1050 Decay Heat Suction Valve has been closed per 1203.028, Loss of Decay Heat Removal AOP.

Per 1203.028, Loss of Decay Heat Removal AOP, what is the preferred makeup flow path for these conditions?

- A. Gravity feed from the BWST.
- B. Low Pressure Injection.
- C. Spent Fuel Cooling Pump P-40A.
- D. Borated Water Recirc Pump P-66.

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Question No. 7

QID: 0395

The plant is shutdown and cooled down.

RCS pressure is 220 psig.

I&C is performing calibration checks on "A" RPS channel.

Why will I&C request the Pzr Control Pressure Selector, HS-1038, be placed in the "Y" position?

- A. To allow remote indications to be checked during calibration.
 - B. To prevent the ERV opening, causing a rapid depressurization of the RCS.
 - C. To maintain pressurizer heaters off during testing.
 - D. To allow the ERV low setpoint to be calibrated.
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Question No. 8

QID: 0582

Given:

- Plant startup is in progress.
- Reactor power is 20%.
- Total Main FW flow is 1.6×10^6 lbm/hr.
- Generator load is ~180 Mwe.

Subsequently the following indications are observed:

- Reactor power dropping rapidly,
- Turbine Generator Lockout alarm is in,
- EFW actuated on both trains.

Which of the following annunciators, and reasons for the annunciator, could cause the above indications?

- A. K08-A3 "REACTOR TRIP" because the in-service MFW pump has tripped causing a reactor trip with power >9%.
- B. K08-F2 "CRD MOTOR POWER FAILURE" because a loss of transformer X8 has tripped the Regulating Groups.
- C. K08-A5 "AMSAC TRIP" because both Gamma Metrics NI-501 and NI-502 were not calibrated within 3% of heat balance as required.
- D. K08-A3 "REACTOR TRIP" because the RPS anticipatory trip for Turbine has not been reset.

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Question No. 9

QID: 0364

After a reactor trip, the following indications are observed:

- Makeup Tank level has lost 5 inches in the last 5 minutes
- RB and Aux. Bldg. Sump levels are stable
- "A" OTSG EFIC level is 35" and rising
- "B" OTSG EFIC level is 31" and stable
- "A" MFW Flow is 0.1 mlb/hr
- "B" MFW Flow is 0.3 mlb/hr

Which of the following actions would be required to minimize the threat of a potential radioactive release to the public?

- A. Initiate HPI per RT-2
- B. Cooldown and isolate the "B" SG
- C. Cooldown and isolate the "A" SG
- D. Commence a rapid RCS cooldown at 240 °F/hr

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Question No. 10

QID: 0551

Which of the following would invoke Pressurized Thermal Shock (PTS) limits during a Steam Line Rupture?

- A. HPI on with all RCPs off
- B. RCS cool down rate 105°F/hr with Tcold 360°F
- C. RCS cool down rate 55°F/hr with Tcold 310°F
- D. SG Tube to shell DT 150°F tubes colder

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Question No. 11

QID: 0774

A reactor trip has occurred from 100% power due to a loss of both MFW Pumps.

The following conditions have existed for three minutes:

- CET temperature = 580 degrees F.
- RCS pressure = 1600 psig.

Which of the following operator actions will be performed?

- A. Trip all running RCPs.
- B. Verify EFW flow to each Steam Generator is ~320 gpm.
- C. Verify Reflux Boiling setpoint is selected on both EFIC trains.
- D. Verify EFW in hand and flow to each Steam Generator is ~570 gpm.

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Question No. 12

QID: 0496

Unit 1 has been in a station black-out for 1.5 hours with battery bank D06 supplying bus D02 with power without a battery charger online for this entire time.

If the equipment on bus D02 does NOT change, which one of the following statements describes the battery's discharge rate (expressed as amperage) as the battery is expended?

- A. The battery amperage will be fairly constant until the design battery capacity is exhausted.
 - B. The battery amperage will drop steadily until the design battery capacity is exhausted.
 - C. The battery amperage will rise steadily until the design battery capacity is exhausted.
 - D. The battery amperage will be fairly constant until the design battery capacity is exhausted and then will rapidly drop.
-

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Question No. 13

QID: 0366

An electrical storm has caused a Degraded Power situation with a spurious ES actuation of the even channels.

In which order will the following ES components be started automatically?

- A. SW pump, HPI pump, LPI pump, RB Spray pump
 - B. HPI pump, SW pump, LPI pump, RB Spray pump
 - C. SW pump, HPI pump, RB Spray pump, LPI pump
 - D. HPI pump, LPI pump, SW pump, RB Spray pump
-

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Question No. 14

QID: 0624

What would be the effect on the SG pressure and level instruments on C03, if a loss of the RS-1 bus occurred?

- A. Instrument power would automatically be transferred to YO-2 by the ABT, SG pressure and level instruments would not be effected.
 - B. The NNI-X S1 and S2 switches would open and SASS would transfer to NNI-Y, SG pressure and level instruments would fail to mid scale.
 - C. The NNI-X S1 and S2 switches would open and SASS would transfer to NNI-Y, SG pressure and level instruments would not be effected.
 - D. Instrument power would automatically be transferred to YO-1 by the ABT, SG pressure and level instruments would not be effected.
-

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Question No. 15

QID: 0187

Given the following indications at 100% power:

- Annunciator D02 UNDERVOLTAGE (K01-A8) in alarm.
- Annunciator D02 TROUBLE (K01-D8) in alarm.
- Annunciator D02 CHARGER TROUBLE (K01-E8) in alarm.
- The reactor has tripped.
- The turbine trip solenoid light is on.
- Breaker position lights on the RIGHT side of C10 are off.

What are the actions required of the CBOT?

- A. Trip the main generator output breakers.
 - B. Transfer D11 to emergency supply D01.
 - C. Trip all RCPs.
 - D. Transfer D21 to emergency supply D01.
-

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Question No. 16

QID: 0281

Service Water Pumps P-4A, P-4B (supplied from A-4), and P-4C are running.
An ES actuation channels (1-10) coincident with a loss of off-site power occurs.

Which service water pumps will autostart when A-3 and A-4 are re-energized and for what reason?

- A. P-4A, P-4B and P-4C, due to high service water loads with all 10 channels actuated
 - B. P-4A and P-4B, due to both being supplied from A-4 and #2 EDG tied on first
 - C. P-4B and P-4C, due to "B" service water pump is the swing pump and is preferred to be running
 - D. P-4A and P-4C, due to 3 service water pumps running prior to event to prevent EDG overloading
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Question No. 17

QID: 0335

Given:

- Loss of all Feedwater
- HPI core cooling started

What indications would you monitor to ensure adequate HPI core cooling?

- A. CET temperatures stable at 100 minutes.
 - B. T-cold tracking associated SG T-sat.
 - C. T-hot tracking CET temperatures.
 - D. T-hot/T-cold differential temperature dropping.
-

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Question No. 18

QID: 0775

REFERENCE PROVIDED

Given:

Plant at 100% power

Generator output 880MWe

Electrical storm caused a grid disturbance

The Dispatcher calls Control Room and requests Unit 1 Generator be operated in the lagging mode at 180 Megavars.

What is the power factor for the above information?

- A. 0.935 PF
- B. 0.955 PF
- C. 0.97 PF
- D. 0.98 PF

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Question No. 19

QID: 0776

Given:

Plant at 100% power

Leak develops on the pressurizer reference leg

What effect does this have on level indication and pressurizer level control valve, CV-1235?

- A. Indicated level decreases and pressurizer level control valve, CV-1235, opens to control level.
 - B. Indicated level decreases and pressurizer level control valve, CV-1235, fails as is.
 - C. Indicated level increases and pressurizer level control valve, CV-1235, fails as is.
 - D. Indicated level increases and pressurizer level control valve, CV-1235, closes to control level.
-

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Question No. 20

QID: 0777

Given:

Source Range 5 E 4 counts

Intermediate Range 1 X E -9 amps

During the startup, the source range instruments fail to 3 counts per second.

What is the required operator action for the given condition?

- A. Immediately suspend operations involving positive reactivity changes..
 - B. Within 1 hour verify CRD trip breakers open.
 - C. Continue the startup.
 - D. Immediately initiate a shutdown and insert all control rods.
-

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Question No. 21

QID: 0778

Given:

Plant at 100% power

Makeup Tank level dropping at 1 inch every 2 minutes.

"A" OTSG N-16 TROUBLE (K07-A5)

PROC MONITOR RADIATION HI (K10-B2)

What is the A OTSG Tube Leak rate?

- A. 10.2 gpm
- B. 15.4 gpm
- C. 20.4 gpm
- D. 30.8 gpm

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Question No. 22

QID: 0634

Given:

- AREA MONITOR RADIATION HI (K10-B1) in alarm
- RADIATION MONITOR TROUBLE (K10-C1) in alarm

In accordance with the alarm response procedure, the area monitors on C25 Bay 3 must be inspected.

What reason(s) would cause both alarms above to come into alarm?

- A. WARNING and POWER ON lights on
- B. POWER ON light off
- C. HIGH ALARM light on and POWER ON light off
- D. FAILURE light on

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Question No. 23

QID: 0695

Per 1015.007, "Fire Brigade Organization and Responsibilities," which of the following describes the Ops Manning composition of the Fire Brigade for the initial response to a fire on Unit 1?

- A. Unit 1 supplies the Fire Brigade Leader,
Unit 2 supplies 3 Fire Brigade members,
Security supplies one support member.
 - B. Unit 1 supplies the Fire Brigade Leader and 2 Fire Brigade members,
Unit 2 supplies 1 Fire Brigade member,
Security supplies one support member.
 - C. Unit 2 supplies the Fire Brigade Leader,
Unit 1 supplies 3 Fire Brigade members,
Security supplies one support member.
 - D. Unit 2 supplies the Fire Brigade Leader and 1 Fire Brigade member,
Unit 1 supplies 2 Fire Brigade members,
Security supplies one support member.
-

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Question No. 24

QID: 0779

Given:

Fire has occurred in the Cable Spread Room

Performing 1203.002 Alternate Shutdown

CRS follow-up actions are in progress

#1 EDG and #2 EDG are running and have been placed in a "No DC" start condition.

What condition can automatically trip the Emergency Diesel Generators?

- A. Positive crankcase pressure trip
 - B. Low lube oil pressure trip
 - C. Mechanical over speed trip
 - D. De-energized Governor Run Solenoid
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Question No. 25

QID: 0349

Diesel Generator #1 is running for a surveillance test.

Low reactor coolant system pressure causes a reactor trip and ESAS actuation.

What will the ES Electrical response be?

- A. A-3 and A-4 powered from SU #1, both diesel generators running unloaded.
- B. A-3 and A-4 powered from SU #1, Diesel Generator # 1 tripped, Diesel Generator # 2 running unloaded.
- C. A-3 powered from Diesel Generator #1, A-4 powered from SU #1, Diesel Generator # 2 running unloaded.
- D. A-3 powered from Diesel Generator #1, and A-4 powered from Diesel Generator #2.

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Question No. 26

QID: 0780

Given:

Plant power 100%

"A" Decay Heat pump OOS

Dardanelle Lake Level 350 feet rising 1 ft/hr due to heavy rains

Corps of Engineers predicts peak flood levels will reach 355 feet

What action is required per Natural Emergencies procedure 1203.025 section 4 Flood?

- A. Perform Rapid Plant Shutdown and align "B" Decay Heat pump for Decay Heat
 - B. Perform Rapid Plant Shutdown and transfer plant auxiliaries to SU 2 transformer
 - C. Trip Reactor and perform a Forced flow Cool Down.
 - D. Trip Reactor and perform a Natural Circulation Cool Down.
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Question No. 27

QID: 0595

In accordance with Technical Specification bases, what is the purpose of the Pressurizer Code Safeties and what is the design bases accident that defines their minimum capacity?

- A. The Pressurizer Code Safeties prevent exceeding the safety limit of 2500 psig during a 100% load rejection without a reactor trip.
- B. The Pressurizer Code Safeties prevent exceeding the safety limit of 2750 psig during a 100% load rejection without reactor trip.
- C. The Pressurizer Code Safeties prevent exceeding the safety limit of 2750 psig during a startup accident.
- D. The Pressurizer Code Safeties prevent exceeding the safety limit of 2500 psig during a startup accident.

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Question No. 28

QID: 0107

The plant is operating at 60% power with Delta Tc and SG/RX Master stations in Hand.
All other ICS stations are in Auto.

If one RCP has to be tripped due to high vibration, how will the ICS respond?
(Assume no operator action other than tripping the RCP.)

- A. The ICS will runback the plant to 45% load at 50%/min.
 - B. No change to FW will occur since the SG/RX Master is in Hand.
 - C. Demand is less than the RCP runback limit, no changes occur to FW.
 - D. The RC flow difference will re-ratio the FW flow demand.
-

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Question No. 29

QID: 0782

Given:

- Plant heat up in progress from refueling outage.
- P-32C and P-32D RCPs are running.
- Seal injection block CV-1206 is in override for testing
- Seal injection flow has been balanced and is in auto at 16 gpm total flow.
- Non-nuclear ICW to RCP motor cooling flow is 200 gpm.
- Nuclear ICW to RCP seal cooling flow is 35 gpm.
- RCS loop A & B cold leg temps are 275°F.
- RCP lift oil pressure is 1800 psig.

A start of RCP P-32A is attempted but is unsuccessful. Why?

- A. Nuclear ICW to RCP seal cooling flow is low.
- B. Seal injection flow is low.
- C. RCP lift oil pressure is low.
- D. RCP motor cooling flow is low.

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Question No. 30

QID: 0796

REFERENCE PROVIDED

Which of the following Boric Acid Addition Tank level and concentration versus RCS Tave would require entry into TRM 3.5.1 ?

- A. 8,700 ppm Boron , BAAT level 36 inches , 400 F Tave
 - B. 9,500 ppm Boron , BAAT level 46 inches , 450 F Tave
 - C. 10,000 ppm Boron , BAAT level 50 inches , 500 F Tave
 - D. 12,000 ppm Boron , BAAT level 56 inches , 550 F Tave
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Question No. 31

QID: 0259

What is the function of the temperature interlock associated with RCS letdown?

- A. Prevents letdown fluid from flashing to steam when pressure is reduced by closing CV-1221 (letdown isolation).
 - B. Prevents exceeding letdown piping thermal limits by shutting CV-1213 & 1215 (letdown cooler inlet MOV).
 - C. Prevents degrading T36A/B resin by shutting CV-1221 (letdown isolation).
 - D. Prevents exceeding letdown cooler capacity by shutting CV-1213 & 1215 (letdown cooler inlet MOV).
-

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Question No. 32

QID: 0786

Given:

- Plant is in Mode 6
- P-34B Decay Heat pump is running

Which of the following would cause a loss of Decay Heat Removal?

- A. A-1 voltage of 2475 volts
 - B. A-2 voltage of 2475 volts
 - C. B-5 voltage of 428 volts
 - D. B-6 voltage of 428volts
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Question No. 33

QID: 0783

Given

ESAS Channels 1-6 have actuated.
BWST Outlet Valve CV-1408 fails to open

What effect will this have on the ECCS with no operator action?

- A. "A" High Pressure Injection Pump AND "A" Low Pressure Injection Pump will be damaged due to loss of suction.
 - B. "C" High Pressure Injection Pump AND "B" Low Pressure Injection Pump will be damaged due to loss of suction.
 - C. "A" High Pressure Injection Pump AND "A" Reactor Building Spray Pump will be damaged due to loss of suction.
 - D. "C" High Pressure Injection Pump AND "B" Reactor Building Spray Pump will be damaged due to loss of suction.
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Question No. 34

QID: 0561

A plant startup is in progress with a steam bubble being drawn in the Pressurizer.

- Initial Quench Tank pressure is 3 psig.
- RCS pressure 75 psig.
- Pressurizer temperature 320°F.

Which of the following assures that venting and steam bubble formation is complete in the Pressurizer?

- A. Quench Tank pressure 7.6 psig after a 3 minute blow of the ERV.
 - B. Quench Tank pressure 6.2 psig after a 3 minute blow of the ERV.
 - C. Quench Tank pressure 4.8 psig after a 3 minute blow of the ERV.
 - D. Quench Tank pressure 3.5 psig after a 3 minute blow of the ERV.
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ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 35

QID: 0787

Given:

- 80% power,
- P33A and P33B ICW pumps in service.
- P33C (ICW Pump) out of service

- P33B (ICW Pump) trips

What impact would this have on plant operations, and what actions are required per 1104.028, ICW System Operating Procedure?

- A. Loss of Non-Nuc ICW, open ICW cross connect valves CV-2238, CV-2239, CV-2240 and CV-2241
 - B. Loss of Non-Nuc ICW, close "A" to "B" cross connect valves CV-2238 and CV-2240
 - C. Loss of Nuc ICW, open ICW cross connect valves CV-2238, CV-2239, CV-2240 and CV-2241
 - D. Loss of Nuc ICW, close "A" to "B" cross connect valves CV-2238 and CV-2240
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ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 36

QID: 0788

Given:

- 100% power,
- "A" MFW Pump trips
- PZR Spray valve (CV-1008) will not open.

What effect would this pressurizer control system malfunction have on the plant?

- A. Reactor trip due to AMSAC
- B. Reactor trip due to anticipatory trip from RPS on loss of MFW pumps
- C. Reactor trip due to High Power/Imbalance/Flow
- D. Reactor trip due to High RCS Pressure

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 37

QID: 0784

Given:

The plant is at 100% power

I&C is troubleshooting RPS

"B" RPS is in Manual Bypass

The Power/Imbalance/Flow Trip bistable in Channel "A" has been pulled from the cabinet.

What would be the effect of a failure in the "B" RPS permissive circuitry that caused a short which de-energizes the "B" RPS Cabinet?

- A. RPS would be in a 2 out of 3 coincidence trip logic
 - B. RPS would be in a 1 out of 2 coincidence trip logic
 - C. Reactor Trip would occur
 - D. Only RPS Channel "A" will be tripped.
-

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Question No. 38

QID: 0785

Given:

The plant is at 100% power

Which of the following is an applicable Limit & Precaution for the RPS System and why?

- A. When testing an RPS protection channel any EFIC Channel can be placed in maintenance bypass simultaneously because RPS has no effect on an EFIC Channel.
- B. Placing two RPS Channels in test simultaneously is allowed as long as Shift Manager permission is obtained because this will have no effect on RPS operation but requires an LCO entry.
- C. The key operated shutdown bypass switch associated with each RPS Channel can be used during power operation because this will have no effect on RPS operation but requires an LCO entry.
- D. Only one RPS Channel Bypass Key shall be accessible for use in the control room because only one RPS Channel shall be key locked in the untripped state at any one time.

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Question No. 39

QID: 0142

Under what conditions can the Control Board Operator bypass or defeat a component automatically actuated by ESAS?

- A. Bypassing or defeating a component automatically actuated by ESAS is not allowed.
 - B. The Control Board Operator, after careful consideration, determines that the component is no longer required.
 - C. ONLY when procedurally directed by the Emergency Operating or the Abnormal Operating procedures.
 - D. After it is determined that the component is no longer needed and approval is obtained from the SM/CRS.
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Question No. 40

QID: 0135

A LOCA has occurred.
Reactor Building (RB) pressure is 47 psia.

Which ESAS channels have actuated the RB cooling units and what is the correct RB cooling alignment?

- A. ES channels 3 & 4, VSF-1A, 1B, 1C, & 1D running with service water aligned to the cooling coils.
 - B. ES channels 3 & 4, VSF-1A, 1B, 1C, 1D, & 1E running with chilled water aligned to the cooling coils.
 - C. ES channels 5 & 6, VSF-1A, 1B, 1C, & 1D running with service water aligned to the cooling coils.
 - D. ES channels 5 & 6, VSF-1A, 1B, 1C, 1D, & 1E running with chilled water aligned to the cooling coils.
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Question No. 41

QID: 0078

If an ESAS occurs simultaneously with a Loss of Offsite Power, the start of RB Spray pumps is delayed by 35 sec. Why?

- A. To allow the EDGs to come up to speed.
 - B. To allow SW pumps to start for spray pump cooling.
 - C. To prevent overload of the EDGs.
 - D. To prevent water hammer of the spray headers.
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ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 42

QID: 0202

Given:

- A plant startup is in progress with the reactor critical below the point of adding heat.
- "B" OTSG Turbine Bypass Valve (CV-6688) fails full OPEN and is unable to be closed with the handjack.
- Tave 524 degrees and dropping
- Pressurizer level 205 inches and dropping
- RCS pressure 2120 psig and dropping

What is the proper course of action?

- A. Close CV-6688 manual isolation valve MS-2A and maintain the reactor critical using 'A' OTSG Turbine Bypass Valve to control RCS temperature and pressure.
 - B. Continue the reactor startup maintaining startup rate <1 DPM while continuing to monitor primary and secondary plant parameters.
 - C. Go directly to 1203.003, OVERCOOLING for actions to mitigate the oversteaming of the 'B' OTSG.
 - D. Trip the reactor and follow the guidance of 1202.001 REACTOR TRIP.
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Question No. 43

QID: 0195

Unit 1 is operating at 100% power with no abnormal conditions or alignments.
'B' MFP SUCT PRESS LO (K07-C8) annunciator is received.

Where can the Control Room Operators read the 'B' MFW pump suction pressure WITHOUT leaving the control room?

- A. The 'B' MFP Lovejoy Operator Control Station (OCS).
 - B. 'B' MFP Suction Pressure (PI-2830) indicator.
 - C. 'B' MFP Suction Pressure computer point (P2830)
 - D. The Operator Information Touchscreen (OIT).
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Question No. 44

QID: 0789

Given:

- 100% power

Which of the following design features provide an automatic trip of the Main Feed Water Pump?

- A. Main Feed Water Pump suction pressure reading 220 psig for 45 seconds
- B. Main Feed Water Pump bearing oil pressure reading 15 psig
- C. Main Feed Water Pump discharge pressure reading 1360 psig
- D. Main Feed Water Pump vibration reading 14 mils

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Question No. 45

QID: 0270

The EFIC automatic fill rate is designed to prevent overcooling.

With the plant in a degraded power condition and given a SG pressure of 885 psig.

Determine the proper OTSG fill rate by EFIC for the EFW system:

- A. ~3"/min
 - B. ~4"/min
 - C. ~5"/min
 - D. ~6"/min
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 46

QID: 0790

Given:

Unit 1 is in a Blackout condition.

Voltage has been recovered on SU#2 and is 155 kV

To restore power to A-3 and A-4, what action along with its purpose is required by the Auxiliary Operator?

- A. Perform Attachment 1, Blackout Breaker Alignment and UV Relay Defeat, to defeat UV interlocks to allow for starting of equipment necessary to protect the core.
 - B. Perform Attachment 1, Blackout Breaker Alignment and UV Relay Defeat, to prevent excess current during starting of the motors.
 - C. Perform Attachment 2, Recovery from Blackout Breaker Alignment and UV Relay Defeat, to allow for starting of equipment necessary to protect the core.
 - D. Perform Attachment 2, Recovery from Blackout Breaker Alignment and UV Relay Defeat, to allow Unit 2 to tie on non-vital loads on SU#2.
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 47

QID: 0316

Which of the following would explain why a loss of bus A1 will cause CV-1206 (RC Pump Seal Injection Block Valve) to close?

(Assume plant is at 100% power)

- A. P36A (HPI) pump was the in-service pump.
 - B. Loss of instrument air to Seal Injection Control Valve, CV-1207.
 - C. P36C (HPI) pump was the in-service pump.
 - D. Loss of instrument air to Pressurizer Level Control valve CV-1235.
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 48

QID: 0086

The plant is at 100% power.

Which of the following DC buses/panels, if de-energized, would cause a reactor trip?

- A. Panel D41
 - B. Panel RA1
 - C. MCC D15
 - D. Panel D21
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 49

QID: 0791

What is the power supply to Emergency Diesel Generator Starting Air Compressors, C4A1 and C4B2?

- A. B31 and B41
- B. B32 and B42
- C. B51 and B61.
- D. B52 and B62

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 50

QID: 0792

Given:

Plant at 100%

Performing #1 EDG monthly surveillance per 1104.036 Supplement 1

The CBOT presses the start pushbutton on C10
K01-B2, EDG 1 OVERCRANK, alarms

What is the cause of the alarm and how long did the starting air system attempt to start the engine?

- A. #1 EDG did not exceed 300 rpm in 45 seconds and air start motors engaged for 8 seconds.
 - B. #1 EDG did not exceed 300 rpm in 8 seconds and air start motors engaged for 45 seconds.
 - C. #1 EDG did not exceed 30 rpm in 45 seconds and air start motors engaged for 2.5 seconds.
 - D. #1 EDG did not exceed 30 rpm in 8 seconds and air start motors engaged for 8 seconds.
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 51

QID: 0672

What type of detector is used by the Main Condenser Air Discharge Radiation Monitor to monitor for steam generator tube leaks?

- A. Scintillation Detector
 - B. Geiger - Mueller Detector
 - C. Ion Chamber Detector
 - D. Beta Radiation Detector
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 52

QID: 0793

When starting Service Water Pump P-4A after maintenance, you observe the following symptoms.

- Pump start is indicated by normal light indication above pump control HS on.
- Annunciator K10-B3 "SW DISCH PRESS HI" alarms.
- Valve position indication in the control room indicates proper valve alignment.
- SW Bay levels are 338 feet
- No change in SW flow or discharge pressure indications on the SPDS Diagnostics screen.
- No change in SW Loop pressure indications on control room panel C09.

Which of the following is the most likely cause of these symptoms?

- A. The pump discharge valve was not opened when returned to service.
 - B. Warm weather conditions cause low demand from ACW/SW.
 - C. P-4A cannot pump into the system because of high system pressure from the other(running) pump.
 - D. P-4A is running without sufficient NPSH to pump water into the SW System.
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 53

QID: 0794

What would be the effect to service water pressure due to an inadvertent actuation of ES Channel 5 ?

- A. Service Water Pressure would drop due to SW valves to the EDG Coolers opening.
- B. Service Water Pressure would drop due to SW valves to the RB Coolers opening.
- C. Service Water Pressure would rise due to ACW isolation valve closing.
- D. Service Water Pressure would rise due to SW to ICW isolations closing.

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 54

QID: 0535

Instrument Air pressure has dropped to 50 psig.

Which of the following manual or automatic actions should be performed or will occur in response to the low Instrument Air pressure?

Note: All actions for higher pressures have been completed at the required pressure and answer the question considering only the action for the current pressure.

- A. Service Air to Instrument Air cross-connect automatically opens.
 - B. Unit 1 to Unit 2 Instrument Air cross-connect automatically opens.
 - C. Trip Reactor, actuate EFW and MSLI on both SGs.
 - D. Close Letdown Cooler Outlet to isolate letdown
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 55

QID: 0795

Given:

Plant refueling is in progress

The Reactor Building Coordinator calls the control room and reports the following:

The inner door of the reactor building personnel hatch will not close

The outer door is operable

In accordance with Technical Specifications for Refueling Operations, how does this affect fuel movement?

- A. Irradiated fuel movement in the reactor building and auxiliary building must be suspended.
- B. Irradiated fuel movement in the reactor building must be suspended.
- C. Irradiated fuel movement in the auxiliary building must be suspended.
- D. Irradiated fuel movement may continue without restriction.

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 56

QID: 0429

If breaker B631 opened while operating at 100% power, the response of the Control Rod Drive system would be:

- A. A ratchet trip of all regulating rods since half of the power supply has been removed.
- B. No effect on regulating rods, safety rods are held by a single phase (CC) energized.
- C. A ratchet trip of the safety rods due to a single phase remaining energized.
- D. A trip of all safety rods since the main power has been removed.

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 57

QID: 0604

A reactor trip has occurred and the CRS is directing actions per 1202.001, Reactor Trip.

Assume all actions have been performed when required by system parameters.

5 minutes later the following is reported:

The CBOR reports that Pressurizer level has fallen to 30" and continuing to drop. Pressurizer Level Control (CV-1235) is in Auto and fully open.

Which of the following is the proper response?

- A. Initiate HPI per Repetitive Task (RT-2).
 - B. Reduce Letdown by closing Orifice Bypass (CV-1223).
 - C. Isolate Letdown by closing Letdown Cooler Outlet (CV-1221).
 - D. Operate CV-1235 in HAND to control PZR level 90 to 110".
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 58

QID: 0797

Given:

Plant at 100%

Letdown flow 80 gpm indicated on FI-1236

Letdown pressure 50 psig on PI-1237

CV-1244 and CV-1245 Letdown DI Inlet Isolation valves lose power.

With no operator action, what would be the expected automatic response of the pressurizer level control system ?

- A. PI-1237 would read 50 psig and Pressurizer level control valve CV-1235 position would close.
- B. PI-1237 would read 150 psig and Pressurizer level control valve CV-1235 position would open.
- C. PI-1237 would read 50 psig and Pressurizer level control valve CV-1235 position would open.
- D. PI-1237 would read 150 psig and Pressurizer level control valve CV-1235 position would close.

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 59

QID: 0308

Given:

- Plant is at 100% power.
- ICS is in full automatic.

Subsequently, annunciator K07-B3 "ASYM ROD RUNBACK IN EFFECT" alarms.
A check of the PI panel shows that Rod 6 in Group 5 has dropped.

Which of the following alarms or indications would you expect to see on the diamond panel?

- A. Sequence Inhibit lamp ON
 - B. Out Inhibit lamp ON
 - C. Auto Inhibit lamp ON
 - D. Manual lamp ON
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 60

QID: 0299

Given:

- The plant is at 80% power.
- The NI SASS mismatch alarm is bypassed due to a mismatch.

What would be the predicted plant response if NI-6 failed to 125%?

- A. Control rods move inward, feedwater flows go up.
 - B. Control rods move inward, feedwater flows go down.
 - C. Control rods move outward, feedwater flows go up.
 - D. Control rods move outward, feedwater flow go down.
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 61

QID: 0077

Given:

- Loop A RCS flow 70 E6 lbm/hr
- Loop B RCS flow 63 E6 lbm/hr
- Loop A Tave 578°F
- Loop B Tave 580°F
- Unit Tave 579°F

Which Tave will be selected by the SASS Auto/manual transfer switch and why?

- a. Unit Tave due to Loop B flow
 - b. Loop A Tave due to Loop B flow
 - c. Loop B Tave due to Loop B flow
 - d. Unit Tave, flows are within tolerances
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 62

QID: 0240

Given:

- Plant is at 100% power
- All CETs indicate 602 °F

ICC train "B" Core Exit Thermocouple TE-1152 fails to 900 °F.

What is the effect of this failure?

- A. Core Exit Thermocouple TE-1152 will be removed from the average.
- B. ICC Core Exit Thermocouple indication will go to ~627 °F.
- C. "TRAIN B SUBCLG MARG LO" annunciator will alarm.
- D. "B" SPDS will switch from ATOG to the ICC display.

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 63

QID: 0138

During the performance of Main Turbine Governor Valve testing, while governor valve #1 was closed in the test position governor valve #3 fails closed.

What turbine problems does this impose?

- A. Moisture impingement on the turbine blading.
 - B. Thermal shock to the turbine rotor.
 - C. Turbine will trip due to low load.
 - D. Turbine overspeed condition.
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 64

QID: 0798

Given:

- Plant at 100% power
- Lake Temperature is stable at 65 F
- P-3A, P-3B, and P-3C Circulating Water Pumps are running
- P-3A Circulating Water Pump trips.
- P-3D Circulating Water Pump standby pump was started.
- It is noticed that the condenser waterbox discharge temperature is 10 degrees higher and condenser vacuum is dropping.
- AOP 1203.016, Loss of Condenser Vacuum, has been entered.

Which of the following is the cause for these conditions?

- A. The stopping and starting of a circ pump caused fouling to be removed from the tube sheet promoting better heat transfer capabilities.
- B. The discharge valve on the tripped pump did not go completely closed and circulating water is short cycling.
- C. The debris on the bar grates of the circulating water bays was stirred up during the circ pump swap causing reduced flow.
- D. Lake temperature is too high for 3 circulating water pump operation per 1104.008, Circulating Water and Water Box Vacuum System Operation.

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 65

QID: 0542

You are on watch in the Control Room when the following annunciator alarms:

- K12-A1, "FIRE"

As Fire Water Header pressure drops from 110 psig to 80 psig select the order that fire pumps would start.

- A. Jockey FWP P-11; Diesel Fire Pump P-6B starts second; Electric Fire Pump P-6A starts last.
 - B. Electric Fire Pump P-6A; Diesel Fire Pump P-6B starts second; Jockey FWP P-11 starts last.
 - C. Electric Fire Pump P-6A; Jockey FWP P-11 starts second; Diesel Fire Pump P-6B starts last.
 - D. Jockey FWP P-11; Electric Fire Pump P-6A starts second; Diesel Fire Pump P-6B starts last.
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 66

QID: 0482

Which of the following must be performed when you are releasing an Liquid radwaste tank and its Process Monitor is inoperable?

- A. Estimate radiation level every four hours during the release.
- B. Have an independent sample obtained and analyzed prior to release.
- C. Estimate flow rate at least once every three hours during release.
- D. The Tank can NOT be released iwhen its process monitor is inoperable.

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 67

QID: 0800

Given:

LOCA in progress has caused ESAS actuation of Channel 1-4

Which of the following combinations of indications and locations are correct for the given condition?

- A. CV-3820, "SW TO ICW," green light, on C16;
CV-1270, "RCP SEAL BLEEDOFF FROM D RCP," red light, on C18;
CV-1053, "QUENCH TANK DRAIN," green light, on C16
- B. CV-1233, "RCS MAKEUP," red light, on C16;
CV-1441, "BWST PURIF RECIRC ISOL," green light, on C13;
CV-5612, "FIRE WATER TO RB," green light, on C18.
- C. CV-1285, "HIGH PRESSURE INJECTION," red light, on C16;
CV-1407, "BWST OUTLET," red light, on C18;
CV-3841, "LPI PUMP BRG CLR E-50 INLET," red light, on C16
- D. CV-1408, "BWST OUTLET," red light, on C18;
CV-7402, "RB PURGE INLET," green light, on C18;
CV-4804, "RB VENT," red light, on C16

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 68

QID: 0799

Procedure 1105.004, "Integrated Control system" limit and precaution states do not operate Reactor Demand H/A station in Auto with both S/Gs on low level limits.

What is the reason for this precaution and does any exception apply?

- A. Due T-ave reduction as power lowers rods will pull to maintain T-ave at setpoint, you can operate with Reactor Demand H/A station in Auto with both S/Gs on low level limits if you adjust T-ave setpoint to match reactor power
 - B. Due T-ave reduction as power lowers rods will not move due to T-ave error, you can not operate with Reactor Demand H/A station in Auto with both S/Gs on low level limits
 - C. When S/Gs are on Low Level Limits, the Tave calibrating integral is blocked, you can operate with Reactor Demand H/A station in Auto with both STGs on low level limits providing you verify calibrating integral is blocked on PDS.
 - D. When S/Gs are on Low Level Limits, the Tave calibrating integral is released, you can not operate with Reactor Demand H/A station in Auto with both S/Gs on low level limits.
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 69

QID: 0116

During an INITIAL approach to criticality, if criticality is NOT achieved within _____ of the ECC, then insert _____ and _____.

- A. Plus or minus 1.0% delta k/k
control rods to achieve 1.5% SD margin
establish hot shutdown conditions
- B. Plus or minus 1.0% delta k/k
regulating groups to achieve 1.0% SD margin
notify Reactor Engineering
- C. Plus or minus 0.5% delta k/k
control rods to achieve 1.5% SD margin
verify calculation
- D. plus or minus 0.5% delta k/k
regulating groups to achieve 1.0% SD margin
verify calculation

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 70

QID: 0801

REFERENCE PROVIDED

Which of the following plant conditions would require entry into LCO 3.2.1 due to exceeding Regulation Rod Insertion Limits per the COLR?

- A. 80% Power, 4 RCP's in service, 150 EFPD, Rod Index of 250 %
 - B. 70% Power, 4 RCP's in service, 300 EFPD, Rod Index of 220 %
 - C. 60% Power, 3 RCP's in service, 100 EFPD, Rod Index of 265 %
 - D. 50% Power, 3 RCP's in service, 350 EFPD, Rod Index of 255 %
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 71

QID: 0802

Given:

- A General Emergency has been declared on Unit 1.
- A Maintenance crew must enter a radiological area with a dose rate of 150 Rem/Hr to protect valuable property.

Which of the following is the MAXIMUM time an individual team member can stay in this area?

- A. 4 minutes
- B. 6 minutes
- C. 8 minutes
- D. 10 minutes

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 72

QID: 0803

General rules of the Generic Emergency Operating Guidelines are that symptoms are treated whenever they occur based on priorities.

Which of the following transients has top priority per the GEOG?

- A. Overheating
 - B. Overcooling
 - C. Loss of Subcooling Margin
 - D. Steam Generator Tube Rupture
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 73

QID: 0161

Given:

- Power escalation is in progress following a shutdown.
- Reactor power is 35%.
- Rod 6 of Group 7 drops.

Which of the following actions should be taken?

- A. Insert all regulating rods in sequential mode.
 - B. Trip the reactor and go to Reactor Trip, 1202.001.
 - C. Verify plant stabilizes at 320 MWe after ICS runback.
 - D. Verify SDM within COLR limit within one hour.
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 74

QID: 818

The EOP/AOP user guide procedure states Reactor Trip (1202.001) is the entry point for all EOPs with one exception.

Which of the following is the exception?

- A. Loss of SCM
 - B. Overcooling
 - C. Overheating
 - D. Tube Rupture
-

ANO Unit 1 - 2010 RO NRC Written Examination

Question No. 75

QID: 0242

What instruments are marked with a green dot?

- A. Instruments designated for use during an alternate shutdown.
 - B. Instruments that should be reliable during accident conditions.
 - C. Instruments the Shift Engineer uses after a reactor trip.
 - D. Instruments designated for use during a loss of NNI-Y power.
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 76

QID: 0588

Given:

- Reactor tripped due to a loss of both MFWPs approximately 15 minutes ago.
- Annunciator K02-B6 "A3 L.O. RELAY TRIP" is in alarm.
- AFW pump, P-75, is tagged out for maintenance.
- Steam Driven EFW Pump, P-7A, has tripped on overspeed.
- RCS pressure is 2000 psig.
- CETs are 612°F.
- Both OTSG levels are 30".

Which of the following procedures should be in use for the above conditions?

- A. 1202.002, Loss of Subcooling Margin
 - B. 1202.004, Overheating
 - C. 1202.011, HPI Cooldown
 - D. 1203.037, Abnormal ES Bus Voltage
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 77

QID: 0805

Given:

- RCS Cooldown in progress
- Tave is 295 F
- RCS Pressure is 440 psig.
- Pressurizer level is 65 inches
- All makeup has been lost
- Pressurizer level is dropping at 5 inches per minute
- Assuming pressurizer level rate of change remains the same

When will LCO 3.4.9 Pressurizer, be entered due to low Pressurizer level and what is the bases per Technical Specification for the low level?

- A. 2 minutes and to maintain the minimum ES bus powered pressurizer heaters OPERABLE.
 - B. 2 minutes and to maintain on scale pressurizer level indication.
 - C. 4 minutes and to maintain the minimum ES bus powered pressurizer heaters OPERABLE.
 - D. 4 minutes and to maintain on scale pressurizer level indication.
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 78

QID: 0806

Given:

- Mode 5
- RCS temperature 170 F
- CV-1050 and CV-1410 interlocks are not bypassed
- RCS pressure 0 psig
- "A" RCP seal removed for maintenance
- "A" Decay Heat in service
- Following alarms are received
 - DECAY HEAT FLOW HI/LO (K09-A8)
 - DECAY HEAT VORTEX WARNING (K09-D8)
 - ISOL VLV OPEN RC PRESS LO (K10-E5)

Which section of OP-1203.028, Loss of Decay Heat Removal, will be entered for the given conditions?

- A. Section 6, Decay Heat Pump Trip
- B. Section 7, Suction Valve Closure
- C. Section 9, Loss of Both DH Systems - RCS Pressure Boundary Intact
- D. Section 10, Loss of Both DH Systems - RCS Pressure Boundary Open

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 79

QID: 0807

Given:

- Plant at 100%
- The following alarms are received
- ICW COOLER OUTLET TEMP HI (K12-E4)
- RCP BLEEDOFF TEMP HI (K08-C7)
- "A" RCP seal temperature rising
- Skewed RCP Seal Injection flows indicated on CO4
- RCS leak rate is 50 gpm

Which of the following procedures provide the actions necessary to mitigate the abnormal operating condition?

- A. OP-1203.039, Excess RCS Leakage
 - B. OP-1203.026, Loss of Reactor Coolant Makeup
 - C. OP-1203.031, Reactor Coolant Pump and Motor Emergency
 - D. OP-1102.016, Power Reduction and Plant Shutdown
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 80

QID: 0585

Given:

- SGTR in progress
- Rx is tripped
- RCS pressure 1350 psig
- RCS Thot 540°F
- Projected dose rate at site boundary at NUE criteria
- "B" SG level at 395" and rising rapidly
- "A" SG level stable at 40"

Considering the above conditions, which of the following procedural actions can cause higher tube stresses than normal limitations but is acceptable during a SGTR per the EOP technical bases document?

- A. Perform a cool down to less than 500°F at 100°F/hr and isolate bad SG.
 - B. Steam bad SG to maintain <410" and limit SG Tube-to-Shell DT <150°F (tubes colder).
 - C. Steam bad SG to maintain <410" and limit SG Tube-to-Shell DT <100°F (tubes hotter).
 - D. Perform an Emergency cool down at a rate of 250°F/hr to 500°F Thot.
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 81

QID: 0584

A steam line rupture has occurred in the Reactor Building with the following conditions now present:

- ESAS actuated on channels 1 thru 6.
- All RCPs secured per RT-10.
- RB pressure 19 psig and dropping.
- HPI throttled due to existence of adequate SCM.
- RCS pressure is 1050 psig.
- T-hot is 490°F.
- EOP actions have terminated the overcooling.

The SE recommends to the CRS to restore normal operating pressure per RT-14 in order to reset ESAS and re-start RCPs.

As CRS, does this recommendation follow the EOP mitigation strategies?

- A. Yes, overcooling event has been terminated.
- B. No, this could overstress reactor vessel.
- C. Yes, adequate SCM has been restored.
- D. No, RB pressure is not within normal limits.

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 82

QID: 0589

Given:

- Plant is at 40% power.
- Group 4, Rod 4 is stuck and is mis-aligned from the group by 7.5%.
- The rod can not be re-aligned with the group.

Subsequently Group 7 Rod 6 drops to 0% withdrawn.

What are the required action(s) per Technical Specifications for the above conditions?

- A. Open Control Rod Drive breakers, within 1 hour.
 - B. Borate to restore SDM within 1 hour and perform Linear Heat Rate surveillance, SR 3.2.5.1, within 6 hours.
 - C. Borate to restore SDM within 1 hour and verify the potential ejected rod worth is within the assumptions of the rod ejection analysis within 6 hours.
 - D. Borate to restore SDM within 1 hour and place the plant in Mode 3 within 6 hours.
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 83

QID: 0808

REFERENCE PROVIDED

- Rx has tripped with three CRDs stuck full out.
- Core lifetime = 150 EFPD
- RCS initial Boron concentration = 810 ppm
- Chemistry reports that the RCS boron concentration is 2200 ppm.

Which of the following contains guidance that must be used, for the above conditions?

- A. No action required, SDM is adequate
 - B. 1202.012, RT-12 Emergency Boration
 - C. 1203.017, Moderator Dilution
 - D. 1103.015, Reactivity Balance Calculation
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 84

QID: 0591

Given:

- Pressurizer Level Control Valve CV-1235 indicates 50% open.
- RC Pump Seals Total Inj Flow valve CV-1207 indicates 50% open.
- Letdown flow indication is zero.
- Letdown pressure indication is zero.
- Letdown Orifice Bypass valve CV-1223 indicates 50% open.
- RCS pressure is 2210 psig and slowly rising.
- Pressurizer Spray valve CV-1008 indicates closed.

What procedure should be in use due to the above conditions?

- A. 1203.015, Pressurizer Systems Failure
- B. 1203.024, Loss of Instrument Air
- C. 1203.047, Loss of NNI Power
- D. 1203.012B, ACA for K10-A8 "LETDOWN TEMP HI"

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 85

QID: 0592

Given:

- Rx was shutdown using 1203.045 Rapid Plant Shutdown,
- Due to a RCS leak
- RCS pressure 1720 psig and lowering slowly
- HPI flow 150 gpm
- A & B SG pressure 910 psig
- RCS cool down rate 35°F per hour
- All Turbine bypass valves closed

Which procedure should be in use?

- A. 1202.001, Overcooling
 - B. 1203.041, Small Break LOCA cool down
 - C. 1203.040, Forced Flow cool down
 - D. 1202.010, ESAS
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 86

QID: 0809

Given:

- 100% Power,
- "C" RCP seal bleed off temperature 210 F.
- "C" RCP motor bearing temperature 185 F.
- "C" RCP motor inboard vibration alert alarm,
- "C" RCP seal cavity pressure oscillating from 650 to 1250 psig.

What is the appropriate section and action of 1203.031, "Reactor Coolant Pump and Motor Emergency" which will mitigate the consequences of these malfunctions?

- A. Section 2, "Seal Failure", Reduce reactor power to within the capacity of unaffected RCP combination and stop the affected RCP per Reactor Coolant Pump Operation, OP1103.006.
- B. Section 2, "Seal Failure", Trip the Reactor and trip the affected RCP.
- C. Section 5, "Motor / Bearing Trouble", Reduce reactor power to within the capacity of unaffected RCP combination and stop the affected RCP per Reactor Coolant Pump Operation, OP1103.006.
- D. Section 5, "Motor / Bearing Trouble", Trip the Reactor and trip the affected RCP.

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 87

QID: 0762

Given:

- Unit 1 is operating at 40% power.
- The Unit is in three pump ops due to the failure of P-32B.
- The Pressurizer Spray Control valve (CV-1008) fails open.

The ATC attempts to close the Pressurizer Spray Isolation valve (CV-1009) and it will NOT close

-Reactor Coolant Pressure is at 2100 psig and slowly lowering with all Pzr Heaters on.

What is the correct procedure and correct action for this condition?

- A. 1202.001 Reactor Trip, and trip the Reactor.
- B. 1202.001 Reactor Trip, and stop P-32C.
- C. 1203.015 PZR System Failure, and trip the Reactor.
- D. 1203.015 PZR System Failure, and stop P-32C.

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 88

QID: 0812

Given

- Plant at 100% power
- P-2B Condensate Pump OOS
- Inadvertent actuation of ES Channel #1
- S/U #1 OOS for maintenance LCO 3.8.1.A 72 hour Time Clock in effect

What would be the impact to the plant due to this malfunction and what procedure would be used to mitigate the effects?

- A. #1 Emergency Diesel Generator would start and use OP-1105.003, Engineered Safeguards Actuation System to reset the tripped channel.
 - B. Red Train High Pressure Injection would occur and use 1202.010, ESAS EOP to override HPI
 - C. Loss of power to A-1 bus and use 1202.001, Reactor Trip EOP
 - D. All Seal Return isolates and use OP1203.031, Reactor Coolant Pump and Motor Emergencies to realign seal bleed off.
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 89

QID: 0811

Given

- 'A' SG Low level transmitter feeding the 'D' EFIC Channel failed Lo
- 'B' SG Pressure transmitter feeding the 'C' EFIC Channel failed Hi

What operator actions are required per Technical Specifications?

- A. Place 'D' channel in bypass per 3.3.11.A
- B. Place 'C' channel in bypass per 3.3.11.B
- C. Trip 'D' channel per 3.3.11.B
- D. Trip 'C' channel per 3.3.11.A

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 90

QID: 0810

Which of the following conditions requires entry into Technical Specification 3.8.4, "DC Sources, Operating" and what is the bases for Technical Specification 3.8.4?

- A. D04A, "Battery Charger" inoperable and D06, "Battery" operable.
Bases is to insure reactor coolant pressure boundary limits are not exceeded as a result of abnormalities
 - B. D04B, "Battery Charger" inoperable and D03B, "Battery Charger" inoperable.
Bases is to insure reactor coolant pressure boundary limits are not exceeded as a result of abnormalities
 - C. D04A, "Battery Charger" inoperable and D04B, "Battery Charger" inoperable.
Bases is to insure adequate core cooling is provided, and reactor building operability and other functions are maintained in the event of a postulated DBA
 - D. D03B, "Battery Charger" inoperable and D07, "Battery" operable.
Bases is to insure adequate core cooling is provided, and reactor building operability and other functions are maintained in the event of a postulated DBA
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 91

QID: 0599

REFERENCE PROVIDED

The plant is operating at 100% power.

Both PZR level transmitters LT-1001 and LT-1002 have failed LOW.

Which of the following actions are required by Technical Specification 3.3.15 and Table 3.3.15-1?

- A. Be in Mode 3 within 6 hours.
- B. Both channels must be restored within 7 days.
- C. Restore one channel to operable status within 30 days or be in Mode 3 within 6 hours.
- D. Restore one channel to operable status within 7 days or be in Mode 3 within 6 hours.

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 92

QID: 0600

Given:

- Plant is in a Refueling outage.
- Core re-load is in progress.
- Approximately 90% of the core is in the Reactor vessel.

The Main Fuel Handling Bridge has a once-burned fuel assembly and is in the process of indexing over the specified core location when NI-502 fails to 0.1 cps.

What action should be taken?

- A. No action necessary because with NI-501 operating, Tech Spec NI requirements for operability are met.
 - B. Contact the Main Fuel Bridge operator and place the assembly in a core location without any adjacent fuel assemblies.
 - C. Halt operations on the Main Fuel Bridge. Core geometry cannot be changed unless two neutron flux monitors are operable.
 - D. Verify boron concentration in the Refueling Canal is greater than 2326 ppm and then continue fuel load.
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 93

QID: 0813

Given:

- Plant at 100% power

Simultaneously the following occurs:

- Reactor trips on low RCS Pressure
- N-16 alarm on "A" Steam Generator
- Steam Line High Range Radiation monitor RI-2681 in alarm.
- RCS pressure drops to 1300 psig
- CET's indicate 550°F
- Reactor Building and Aux Building sump levels are stable.

Starting with 1202.001, Reactor Trip EOP, which of the following lists the order of EOP's to mitigate this event?

- A. 1202.002 Loss of Subcooling Margin and 1202.006 Tube Rupture
 - B. 1202.002 Loss of Subcooling Margin and 1202.010 ESAS
 - C. 1202.006 Tube Rupture and 1202.010 ESAS
 - D. 1202.006 Tube Rupture and 1202.012 RT-10
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 94

QID: 0492

Given the plant conditions following a reactor trip:

- RCS temperature: 605 degrees stable
- RCS pressure: 2300 psig slowly dropping
- ERV: open in AUTO
- OTSG shell temperature: 558 degrees
- OTSG levels 20 inches, steady
- PZR level 180 inches, rising

Which of the following actions are required?

- A. Trip the running RCP per 1202.002, Loss of Subcooling Margin.
- B. Isolate the ERV per 1202.001, Reactor Trip.
- C. Select the reflux boiling setpoint per RT-5.
- D. Initiate Full HPI per RT 3.

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 95

QID: 0814

Which of the following conditions would require the SRO in charge of fuel handling to order a stop to fuel movement in the Reactor Building?

- A. Outage Control Center reports that the reactor has been subcritical for 90 hours.
 - B. National Weather Service declares a Tornado Watch in effect for Conway County.
 - C. One Control Room Emergency Air Conditioning System (CREACS) inoperable for the past 5 days.
 - D. Reactor Building Radiation monitor RE-8017 inoperable, and portable survey instrument is being monitored on the fuel handling bridge.
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 96

QID: 0646

Given:

- #1 EDG has one Air Start Compressor and it's associated Air Receiver Tanks tagged out.
- The remaining Air Start Compressor on #1 EDG trips while EDG is running for a surveillance.
- The Air Receiver Tanks' pressure is 145 psig.

In accordance with Technical Specifications, what is the required action for the above conditions?

- A. No actions are necessary since the EDG is running and an air start system is not needed.
 - B. Restore required starting air receiver pressure to within limits in 48 hours.
 - C. Declare #1EDG inoperable immediately.
 - D. Be in Mode 3 within 12 hours.
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 97

QID: 0815

Given:

- Power 100%
- All equipment operable and there are no Tech Spec LCOs in effect
- Annunciator K12-B5, P-7A Turbine Trip alarm is received
- WCO reports that the linkage for the trip throttle valve has broken.

You are the Shift Manager,

Per EN-WM-100, "Work Request (WR) Generation, Screening and Classification," which work order process should be used to correct this condition.

- A. Emergency Maintenance
- B. Priority One Work Order
- C. Priority Two Work Order
- D. Priority Three Work Order

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 98

QID: 0816

During a fuel handling accident Krypton-85 is the major source of gaseous activity released from a damaged Fuel assembly that has decayed for >190 days.

Which portion of the body will receive the highest dose after a fuel handling accident?

- A. Skin dose from Beta
- B. Whole body dose from Gamma
- C. Extremities dose from Beta
- D. Internal Organ dose from Gamma

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 99

QID: 0411

A fire was reported at 0844 in the vicinity of the Old Radwaste Building. It is now 0920 and the fire is still burning.

Based on the above conditions what is the time requirement for notification to the NRC?

- A. Notification to the NRC is required within 15 minutes of the declaration of an emergency class.
 - B. Notification to the NRC is required immediately following notification of the ADH and within 1 hour of the declaration of an emergency class.
 - C. Notification to the NRC is required immediately following declaration of an emergency class and notify the ADH within 1 hour.
 - D. Notification to the NRC is required within 4 hours of the declaration of an emergency class.
-

ANO Unit 1 - 2010 SRO NRC Written Examination

Question No. 100

QID: 0750

Given:

- Severe Fire on 335 Auxiliary Building on Unit 1
- Reactor has been tripped

Which of the following actions would the CRS direct the Outside AO to perform and what procedural guidance would be used?

- A. Fire fighting tasks per "Fire or Explosion" procedure 2203.034.
 - B. Securing Polishers per "Reactor Trip/Outage Recovery" procedure 1102.006.
 - C. Placing the Startup Boiler in service per "Startup Boiler Operation" procedure 1106.022.
 - D. Throttle CV-2627 EFW Supply to "A" SG per "Fires in Areas Affecting Safe Shutdown" procedure 1203.049
-

ANO Unit 1 - 2010 SRO NRC Written Examination

ANO Unit 1 - 2010 SRO NRC Written Exam KEY

Question No. 1 QID: 0770 Point Value: 1

Answer:

B. Commence emergency boration per RT-12 due to stuck rods.

Question No. 2 QID: 0771 Point Value: 1

Answer:

B. Group 1 proportional heaters, Group 2 proportional heaters, Group 5 heaters, 128 KW output

Question No. 3 QID: 0772 Point Value: 1

Answer:

A. RCS leak rate approximately 91 gpm, and the RB sump level can be used for 3 minutes.

Question No. 4 QID: 0198 Point Value: 1

Answer:

A. To ensure adequate NPSH for ECCS pumps.

Question No. 5 QID: 0609 Point Value: 1

Answer:

C. Seal beedoff temperature 60°F above 1st stage seal temperature

Question No. 6 QID: 0773 Point Value: 1

Answer:

B. Low Pressure Injection.

Question No. 7 QID: 0395 Point Value: 1

Answer:

B. To prevent the ERV opening, causing a rapid depressurization of the RCS.

Question No. 8 QID: 0582 Point Value: 1

Answer:

C. K08-A5 "AMSAC TRIP" because both Gamma Metrics NI-501 and NI-502 were not calibrated within 3% of heat balance as required.

ANO Unit 1 - 2010 SRO NRC Written Exam KEY

Question No. 9 QID: 0364 Point Value: 1

Answer:

C. Cooldown and isolate the "A" SG

Question No. 10 QID: 0551 Point Value: 1

Answer:

A. HPI on with all RCPs off

Question No. 11 QID: 0774 Point Value: 1

Answer:

C. Verify Reflux Boiling setpoint is selected on both EFIC trains.

Question No. 12 QID: 0496 Point Value: 1

Answer:

C. The battery amperage will rise steadily until the design battery capacity is exhausted.

Question No. 13 QID: 0366 Point Value: 1

Answer:

D. HPI pump, LPI pump, SW pump, RB Spray pump

Question No. 14 QID: 0624 Point Value: 1

Answer:

A. Instrument power would automatically be transferred to YO-2 by the ABT, SG pressure and level instruments would not be effected.

Question No. 15 QID: 0187 Point Value: 1

Answer:

D. Transfer D21 to emergency supply D01.

Question No. 16 QID: 0281 Point Value: 1

Answer:

D. P-4A and P-4C, due to 3 service water pumps running prior to event to prevent EDG overloading

ANO Unit 1 - 2010 SRO NRC Written Exam KEY

Question No. 17 QID: 0335 Point Value: 1

Answer:

A. CET temperatures stable after 100 minutes.

Question No. 18 QID: 0775 Point Value: 1

Answer:

D. 0.98 PF

Question No. 19 QID: 0776 Point Value: 1

Answer:

D. Indicated level increases and pressurizer level control valve, CV-1235, closes to control level.

Question No. 20 QID: 0777 Point Value: 1

Answer:

C. Continue the startup..

Question No. 21 QID: 0778 Point Value: 1

Answer:

B. 15.4 gpm

Question No. 22 QID: 0634 Point Value: 1

Answer:

B. POWER ON light off

Question No. 23 QID: 0695 Point Value: 1

Answer:

A. Unit 1 supplies the Fire Brigade Leader, Unit 2 supplies 3 Fire Brigade members, Security supplies one support member

Question No. 24 QID: 0779 Point Value: 1

Answer:

C. Mechanical over speed trip

ANO Unit 1 - 2010 SRO NRC Written Exam KEY

Question No. 25 QID: 0349 Point Value: 1

Answer:

A. A-3 and A-4 powered from SU #1, both diesel generators running unloaded.

Question No. 26 QID: 0780 Point Value: 1

Answer:

B. Perform Rapid Plant Shutdown and transfer plant auxiliaries to SU 2 transformer

Question No. 27 QID: 0595 Point Value: 1

Answer:

C. The Code Safeties prevent exceeding the safety limit of 2750 psig during a startup accident.

Question No. 28 QID: 0107 Point Value: 1

Answer:

D. The RC flow difference will re-ratio the FW flow demand.

Question No. 29 QID: 0782 Point Value: 1

Answer:

D. RCP motor cooling flow is low.

Question No. 30 QID: 0796 Point Value: 1

Answer:

C. 10,000 ppm Boron , BAAT level 50 inches , 500 F Tave

Question No. 31 QID: 0259 Point Value: 1

Answer:

C. Prevents degrading T36A/B resin by shutting CV-1221 (letdown isolation).

Question No. 32 QID: 0786 Point Value: 1

Answer:

D. B-6 voltage of 428volts

ANO Unit 1 - 2010 SRO NRC Written Exam KEY

Question No. 33 QID: 0783 Point Value: 1

Answer:

B. "C" High Pressure Injection Pump AND "B" Low Pressure Injection Pump will be damaged due to loss of suction.

Question No. 34 QID: 0561 Point Value: 1

Answer:

D. Quench Tank pressure 3.5 psig after a 3 minute blow of the ERV.

Question No. 35 QID: 0787 Point Value: 1

Answer:

C. Loss of Nuc ICW, open ICW cross connect valves CV-2238, CV-2239, CV-2240 and CV-2241

Question No. 36 QID: 0788 Point Value: 1

Answer:

D. Reactor trip due to High RCS Pressure

Question No. 37 QID: 0784 Point Value: 1

Answer:

C. Reactor Trip would occur

Question No. 38 QID: 0785 Point Value: 1

Answer:

D. Only one RPS Channel Bypass Key shall be accessible for use in the control room because only one RPS Channel shall be key locked in the untripped state at any one time.

Question No. 39 QID: 0142 Point Value: 1

Answer:

D. After it is determined that the component is no longer needed and approval is obtained from the SM/CRS.

ANO Unit 1 - 2010 SRO NRC Written Exam KEY

Question No. 40 QID: 0135 Point Value: 1

Answer:

c. ES channels 5 & 6, VSF-1A, 1B, 1C, & 1D running with service water aligned to the cooling coils.

Question No. 41 QID: 0078 Point Value: 1

Answer:

C. To prevent overload of the EDGs.

Question No. 42 QID: 0202 Point Value: 1

Answer:

D. Trip the reactor and follow the guidance of 1202.001 REACTOR TRIP.

Question No. 43 QID: 0195 Point Value: 1

Answer:

C. 'B' MFP Suction Pressure computer point (P2830)

Question No. 44 QID: 0789 Point Value: 1

Answer:

C. Main Feed Water Pump discharge pressure reading 1360 psig

Question No. 45 QID: 0270 Point Value: 1

Answer:

B. ~4"/min

Question No. 46 QID: 0790 Point Value: 1

Answer:

A. Perform Attachment 1, Blackout Breaker Alignment and UV Relay Defeat, to defeat UV Close Permissive interlocks to allow for starting of equipment necessary to protect the core.

Question No. 47 QID: 0316 Point Value: 1

Answer:

A. P36A (HPI) pump was the in-service pump.

ANO Unit 1 - 2010 SRO NRC Written Exam KEY

Question No. 48 QID: 0086 Point Value: 1

Answer:

B. Panel RA1

Question No. 49 QID: 0791 Point Value: 1

Answer:

A. B31 and B41

Question No. 50 QID: 0792 Point Value: 1

Answer:

A. #1 EDG did not exceed 300 rpm in 45 seconds and air start motors engaged for 8 seconds.

Question No. 51 QID: 0672 Point Value: 1

Answer:

A. Scintillation Detector

Question No. 52 QID: 0793 Point Value: 1

Answer:

A. The pump discharge valve was not opened when returned to service.

Question No. 53 QID: 0794 Point Value: 1

Answer:

B. Service Water Pressure would drop due to SW valves to the RB Coolers opening.

Question No. 54 QID: 0535 Point Value: 1

Answer:

A. Service Air to Instrument Air cross-connect automatically opens.

Question No. 55 QID: 0795 Point Value: 1

Answer:

D. Irradiated fuel movement may continue without restriction.

ANO Unit 1 - 2010 SRO NRC Written Exam KEY

Question No. 56 QID: 0429 Point Value: 1

Answer:

B. No effect on regulating rods, safety rods are held by a single phase (CC) energized.

Question No. 57 QID: 0604 Point Value: 1

Answer:

A. Initiate HPI per Repetitive Task (RT-2).

Question No. 58 QID: 0797 Point Value: 1

Answer:

B. PI-1237 would read 150 psig and Pressurizer level control valve CV-1235 position would open.

Question No. 59 QID: 0308 Point Value: 1

Answer:

B. Out Inhibit lamp ON

Question No. 60 QID: 0299 Point Value: 1

Answer:

A. Control rods move inward, feedwater flows go up.

Question No. 61 QID: 0077 Point Value: 1

Answer:

b. Loop A Tave due to Loop B flow

Question No. 62 QID: 0240 Point Value: 1

Answer:

A. Core Exit Thermocouple TE-1152 will be removed from the average.

Question No. 63 QID: 0138 Point Value: 1

Answer:

B. Thermal shock to the turbine rotor.

ANO Unit 1 - 2010 SRO NRC Written Exam KEY

Question No. 64 QID: 0798 Point Value: 1

Answer:

- B. The discharge valve on the tripped pump did not go completely closed and circulating water is short cycling.
-

Question No. 65 QID: 0542 Point Value: 1

Answer:

- D. Jockey FWP P-11; Electric Fire Pump P-6A starts second; Diesel Fire Pump P-6B starts last.
-

Question No. 66 QID: 0482 Point Value: 1

Answer:

- B. Have an independent sample obtained and analyzed prior to release.
-

Question No. 67 QID: 0800 Point Value: 1

Answer:

- C. CV-1285, "HIGH PRESSURE INJECTION," red light, on C16;
CV-1407, "BWST OUTLET," red light, on C18;
CV-3841, "LPI PUMP BRG CLR E-50 INLET," red light, on C16
-

Question No. 68 QID: 0799 Point Value: 1

Answer:

- A. Due T-ave reduction as power lowers rods will pull to maintain T-ave at setpoint, you can operate with
Reactor Demand H/A station in Auto with both S/Gs on low level limits if you adjust T-ave setpoint to
match reactor power
-

Question No. 69 QID: 0116 Point Value: 1

Answer:

- C. plus or minus 0.5% delta k/k
control rods to achieve 1.5% SD margin
verify calculation
-

ANO Unit 1 - 2010 SRO NRC Written Exam KEY

Question No. 70 QID: 0801 Point Value: 1

Answer:

B. 70% Power, 4 RCP's in service, 300 EFPD, Rod Index of 220 %

Question No. 71 QID: 0802 Point Value: 1

Answer:

A. 4 minutes

Question No. 72 QID: 0803 Point Value: 1

Answer:

C. Loss of Subcooling Margin

Question No. 73 QID: 0161 Point Value: 1

Answer:

D. Verify SDM within COLR limit within one hour.

Question No. 74 QID: 818 Point Value: 1

Answer:

D. Tube Rupture

Question No. 75 QID: 0242 Point Value: 1

Answer:

B. Instruments that should be reliable during accident conditions.

Question No. 76 QID: 0588 Point Value: 1

Answer:

B. 1202.004, Overheating

Question No. 77 QID: 0805 Point Value: 1

Answer:

D. 4 minutes and to maintain on scale pressurizer level indication.

ANO Unit 1 - 2010 SRO NRC Written Exam KEY

Question No. 78 QID: 0806 Point Value: 1

Answer:

B. Section 7, Suction Valve Closure

Question No. 79 QID: 0807 Point Value: 1

Answer:

A. OP-1203.039, Excess RCS Leakage

Question No. 80 QID: 0585 Point Value: 1

Answer:

B. Steam bad SG to maintain <410" and limit SG Tube-to-Shell DT <150°F (tubes colder).

Question No. 81 QID: 0584 Point Value: 1

Answer:

B. No, this could overstress reactor vessel.

Question No. 82 QID: 0589 Point Value: 1

Answer:

D. Borate to restore SDM within 1 hour and place the plant in Mode 3 within 6 hours.

Question No. 83 QID: 0808 Point Value: 1

Answer:

B. 1202.012, RT-12 Emergency Boration

Question No. 84 QID: 0591 Point Value: 1

Answer:

C. 1203.047, Loss of NNI Power

Question No. 85 QID: 0592 Point Value: 1

Answer:

B. 1203.041, Small Break LOCA cool down

ANO Unit 1 - 2010 SRO NRC Written Exam KEY

Question No. 86 QID: 0809 Point Value: 1

Answer:

B. Section 2, "Seal Failure", Trip the Reactor and trip the affected RCP.

Question No. 87 QID: 0762 Point Value: 1

Answer:

D. 1203.015 PZR System Failure, and stop P-32C.

Question No. 88 QID: 0812 Point Value: 1

Answer:

C. Loss of power to A-1 bus and use 1202.001, Reactor Trip EOP

Question No. 89 QID: 0811 Point Value: 1

Answer:

B. Place 'C' channel in bypass per 3.3.11.B

Question No. 90 QID: 0810 Point Value: 1

Answer:

C. D04A, "Battery Charger" inoperable and D04B, "Battery Charger" inoperable.
Bases is to insure adequate core cooling is provided, and reactor building operability
and other functions are maintained in the event of a postulated DBA

Question No. 91 QID: 0599 Point Value: 1

Answer:

D. Restore one channel to operable status within 7 days or be in Mode 3 within 6 hours.

Question No. 92 QID: 0600 Point Value: 1

Answer:

C. Halt operations on the Main Fuel Bridge. Core geometry cannot be changed unless two
neutron flux monitors are operable.

Question No. 93 QID: 0813 Point Value: 1

Answer:

A. 1202.002 Loss of Subcooling Margin and 1202.006 Tube Rupture

ANO Unit 1 - 2010 SRO NRC Written Exam KEY

Question No. 94 QID: 0492 Point Value: 1

Answer:

B. Isolate the ERV per 1202.001, Reactor Trip.

Question No. 95 QID: 0814 Point Value: 1

Answer:

A. Outage Control Center reports that the reactor has been subcritical for 90 hours.

Question No. 96 QID: 0646 Point Value: 1

Answer:

C. Declare #1EDG inoperable immediately.

Question No. 97 QID: 0815 Point Value: 1

Answer:

B. Priority One Work Order

Question No. 98 QID: 0816 Point Value: 1

Answer:

A. Skin dose from Beta

Question No. 99 QID: 0411 Point Value: 1

Answer:

B. Notification to the NRC is required immediately following notification of the ADH and within 1 hour of the declaration of an emergency class.

Question No. 100 QID: 0750 Point Value: 1

Answer:

D. Throttle CV-2627 EFW Supply to "A" SG per "Fires in Areas Affecting Safe Shutdown" procedure 1203.049
