

WNP-2 WRITTEN EXAMINATION

QUESTION # 1

RO EXAM

10/23/2000

EX00001

The plant is in MODE 4, with the AC Distribution System in the normal shutdown lineup. RHR-P-2B is in operation in shutdown cooling. An electrical fault on SM-3 causes a Lockout on BKR S-3.

Which ONE of the following describes the effect on shutdown cooling?

RHR-P-2B trips

- A. and must be manually restarted, RHR-V-8, RHR-V-9, RHR-V-53B remain open after BKR S-3 opens.
- B. but auto starts 5 seconds after the bus is repowered from DG-2, RHR-V-8, RHR-V-9, RHR-V-53B, remain open.
- C. and must be manually restarted, RHR-V-8 closes immediately, RHR-V-9 and RHR-V-53B, close when the bus is repowered and must be opened manually.
- D. but auto starts 5 seconds after the bus is repowered from DG-2, RHR-V-8, RHR-V-9, RHR-V-53B, close when the bus is repowered.

WNP-2 WRITTEN EXAMINATION
RO EXAM

10/23/2000

QUESTION # 2

EX00003

The plant is operating at rated power, when a fault causes an automatic power reduction to approximately 60% of rated.

Which ONE of the following would result in these conditions?

- A. SH-6 trip.
- B. SM-1 trip.
- C. SM-3 trip
- D. SM-8 trip

WNP-2 WRITTEN EXAMINATION

QUESTION # 3

RO EXAM

10/23/2000

EX00004

The reactor is at rated power with TIP Channel C inserted for LPRM calibration, when a loss of SM-1 occurs.

Assuming no operator action, which ONE of the following is correct?

- A. The TIP drive continues to insert the detector to the Core Top Limit and completes the Tip trace. The detector then withdraws into the shield chamber and the ball valve closes.
- B. Immediately on receipt of the -50 inches signal, the squib valve fires, isolating the drive mechanism.
- C. The inserted TIP detector withdraws into the shield chamber, the ball valve closes, and TIP-V-15, Tip Purge Isolation Valve closes.
- D. The inserted TIP detector stops until power is restored to SM-1 and then completes the TIP trace.

WNP-2 WRITTEN EXAMINATION

QUESTION # 4

RO EXAM

10/23/2000

EX00005

The plant was operating at 98% power when a Station Blackout occurred. The following conditions exist:

4 control rods failed to insert fully
Reactor Level -172 inches

Which ONE of the following describes the required Tech Spec actions for these conditions?

- A. Initiate action within 1 hour to restore level to greater than -129 inches.
- B. Within 1 hour, restore reactor level to greater than + 13 inches and insert all insertable control rods.
- C. Within 2 hours, restore reactor level greater than -161 inches and insert all insertable control rods.
- D. Initiate action within 2 hours to restore level to greater than -129 inches.

WNP-2 WRITTEN EXAMINATION

QUESTION # 5

RO EXAM

10/23/2000

EX00012

The plant was operating at 100% power when a fire caused the abandonment of the Control Room. CRO1, at the Remote Shutdown Panel is attempting to contact the CRS at the Alternate Remote Shutdown Panel.

Which ONE of the following describes the permanently installed communication systems available at both of these panels for this use?

- A. Plant page and plant radio
- B. Plant page and plant phones
- C. Sound powered phones and plant radio
- D. Sound powered phones and plant phones

WNP-2 WRITTEN EXAMINATION

QUESTION # 6

RO EXAM

10/23/2000

EX00013

The plant is in MODE 5 with fuel movement underway. The following conditions exist:

1. A FUEL POOL LEVEL HIGH/LOW annunciator is received.
2. The SRO on the Refuel Bridge reports fuel pool level decreasing visibly.
3. The refuel bridge is currently over the Spent Fuel Pool.

Which ONE of the following is correct for these conditions?

- A. FPC-P-1A (1B) trips prior to any other Fuel Pool Cooling action and the fuel bundle should be placed in the nearest storage location.
- B. FPC-P-1A (1B) trips prior to any other Fuel Pool Cooling action and the fuel bundle should be replaced in its location in the core.
- C. COND-V-42, Condensate Makeup, auto opens prior to any other Fuel Pool Cooling action and the fuel bundle should be placed in the nearest storage location.
- D. COND-V-42, Condensate Makeup, auto opens prior to any other Fuel Pool Cooling action and the fuel bundle should be replaced in its location in the core.

WNP-2 WRITTEN EXAMINATION

QUESTION # 7

RO EXAM

10/23/2000

EX00016

The plant was operating at 98% power when an ATWS occurred. All rods are not full in. Reactor level has decreased and cannot be maintained GT –192 inches and an Emergency Depressurization has been completed.

Which ONE of the following the **basis** for this Emergency Depressurization?

- A. The Emergency Depressurization maintains peak clad temperature LT 1800°F that ensures no fuel clad perforations.
- B. The Emergency Depressurization maximizes flow from high pressure systems and allows low pressure systems to inject into the core.
- C. Reactor level has reached the Minimum Zero Injection RPV Water Level, MZIRWL, at –192 inches and must be depressurized.
- D. The reactor must be depressurized prior to exceeding the Minimum Steam Cooling Water Level, MSCRWL, at –205 inches.

WNP-2 WRITTEN EXAMINATION

QUESTION # 8

RO EXAM

10/23/2000

EX00017

Reactor power has been reduced to allow control rod scram testing. The following conditions exist:

RRC Loop A Flow	37,500 gpm
RRC Loop B Flow	37,500 gpm
Control Rod 30-31	Scrammed to position 00 (as part of the surveillance).

RRC-P-1A then trips resulting in reactor power of 40%.

Which ONE of the following is correct action for these conditions?

- A. Increase recirc flow on the running recirc pump, RRC-P-1B
- B. Insert control rods in reverse order on the pull sheet as directed by the SNE
- C. Immediately manually scram the reactor.
- D. Insert control rods per the fast shutdown sequence when directed by the CRS

WNP-2 WRITTEN EXAMINATION

QUESTION # 9

RO EXAM

10/23/2000

EX00018

The Plant is operating at 71% power with CW-P-1A out of service. CW-P-1C fails catastrophically causing a simultaneous trip of CW-P-1B.

Which ONE of the following describes the basis for the automatic scram caused by this failure?

A reactor scram is initiated ...

- A. on high reactor pressure to prevent exceeding fuel thermal limits caused by the power increase due to void collapse.
- B. on low reactor water level to prevent fuel damage from lack of adequate core cooling.
- C. on turbine throttle valve closure in anticipation of the reactor transients that would be caused by the closure of these valves.
- D. on high neutron flux to prevent fuel damage from excessively high reactor coolant system pressure.

WNP-2 WRITTEN EXAMINATION

QUESTION # 10

RO EXAM

10/23/2000

EX00020

The plant is operating at rated conditions when one of the 500 kv transformers shorts to ground across a dirty insulator. The ground causes the 500 kv breakers to open, the Unit Lockout relays to trip, and a momentary undervoltage signal to SM-7 and SM-8.

Which ONE of the following describes the expected response to this event?

- A.
 - turbine trips on anti-motoring
 - N bkrs trip and S bkrs close
 - recirc pumps runback to 15 hz
 - DG1 & 2start and supply their buses

- B.
 - turbine trips on anti-motoring
 - N bkrs trip and S bkrs close
 - recirc pumps trip off
 - DG1 & 2start and supply their buses

- C.
 - turbine trips immediately
 - N bkrs trip and S bkrs close
 - recirc pumps runback to 15 hz
 - DG1 & 2start but do **not** supply their buses

- D.
 - turbine trips immediately
 - N bkrs trip and S bkrs close
 - recirc pumps trip off
 - DG1 & 2start but do **not** supply their buses

WNP-2 WRITTEN EXAMINATION

QUESTION # 11

RO EXAM

10/23/2000

EX00023

The plant has experienced a transient that caused hydrogen and oxygen production in excess of the combustible limits. The CRS has directed that CAC be stopped.

Which ONE of the following describes a reason for stopping CAC under these conditions?

Stopping CAC eliminates a possible ignition source for a deflagration and prevents ...

- A. failure of the Wetwell to Drywell interface.
- B. exceeding the Primary Containment Pressure Limit.
- C. failure of the Reactor Building to Wetwell Vacuum Breakers
- D. exceeding the Pressure Suppression Pressure

WNP-2 WRITTEN EXAMINATION

QUESTION # 12

RO EXAM

10/23/2000

EX00024

The plant is operating at 99% power with BKR B-7 tagged out for maintenance, when a LOCA occurs. All plant equipment responds as expected except BKR S-1, which trips due to an overcurrent 2 minutes after the LOCA signal is received.

Which ONE of the following is true concerning these conditions?

- A. LPCS-P-1 restarts 10 seconds after SM-7 is repowered from DG-1.
- B. LPCS-P-1 restarts 22 seconds after SM-7 is repowered from DG-1.
- C. RHR-P-2A restarts 5 seconds after SM-7 is repowered from DG-1.
- D. RHR-P-2A restarts 18.5 seconds after SM-7 is repowered from DG-1.

WNP-2 WRITTEN EXAMINATION

QUESTION # 13

RO EXAM

10/23/2000

EX00025

The reactor is operating at 99% power. The CRO notices that the GP1 Scram Group Solenoid indicating light for RPS A is out. The CRO verifies the light bulb is good. Shortly thereafter, an APRM F INOP occurs.

Which ONE of the following describes the effect of these conditions?

- A. The Scram Pilot Valves, CRD-V-117 and 118, energize and open the Inlet and Outlet Scram Valves, CRD-V-126 and 127 for RPS Group 1 control rods.
- B. The Scram Pilot Valves, CRD-V-117 and 118, de-energize and open the Inlet and Outlet Scram Valves, CRD-V-126 and 127 for RPS Group 1 control rods.
- C. Only the Scram Pilot Valves, CRD-V-117 open, they close when the blown fuse in RPS A is replaced.
- D. Only the Scram Pilot Valves, CRD-V-118 open, they close when the ½ scram for RPS is reset.

WNP-2 WRITTEN EXAMINATION

QUESTION # 14

RO EXAM

10/23/2000

EX00026

A control rod withdrawal for startup is underway. SRM count rate is $1E3$ cps following withdrawal of the previous rod. During withdrawal of the next control rod, the 1st in the next RWM group, the SRM PERIOD FAST annunciator is received. Reactor period decreased to 40 seconds and is now increasing.

Which ONE of the following is the correct action in this situation?

- A. Stop control rod withdrawal.
- B. Monitor SRMs and maintain countrate $<1E4$ cps.
- C. Insert control rods until the reactor is subcritical.
- D. Immediately scram the reactor.

WNP-2 WRITTEN EXAMINATION

QUESTION # 15

RO EXAM

10/23/2000

EX00028

The plant is operating at rated conditions with DP-S1-2A de-energized. The suction line for RRC-P-1A suddenly and completely shears. RHR-P-2C suffers a sheared shaft upon start.

Which one of the following is correct for these conditions?

ADS....

- A. does not automatically initiate but can be initiated with the Arm and Depress Switch.
- B. automatically initiates 105 seconds following the start of RHR-P-2B
- C. will neither automatically initiate nor manually initiate with the Arm and Depress Switch.
- D. automatically initiates 105 seconds following the LOCA signal.

WNP-2 WRITTEN EXAMINATION

RO EXAM

10/23/2000

QUESTION # 16

EX00029

The plant is operating at 100% power when a fault occurs. The CRO notices RWCU-V-1 and RWCU-V-4 are closed following the fault.

Which ONE of the following explains the status of RWCU?

Loss of ...

- A. IN-1
- B. IN-3
- C. RPS-B
- D. RPS-A

WNP-2 WRITTEN EXAMINATION

QUESTION # 17

RO EXAM

10/23/2000

EX00030

The plant is operating at rated conditions with the lead Fan SGT-FN-1B-2 discharge SGT-V-5B-2, Exhaust to Stack, tagged closed for maintenance. A scram occurs from a loss of feedwater.

Assuming no operator action, which ONE of the following is correct concerning these conditions?

- A. SGT-FN-1B-2 auto starts and trips on low flow. SGT-FN-1B1 auto starts 10 seconds later and aligns to the stack.
- B. SGT-FN-1B-2 auto starts and runs with low flow and must be manually tripped.
- C. SGT-FN-1B1 auto starts and aligns to the stack immediately following the start signal.
- D. SGT-FN-1B1 auto starts 10 seconds following the start of SGT-FN-1B2 and aligns to the stack.

WNP-2 WRITTEN EXAMINATION

QUESTION # 18

RO EXAM

10/23/2000

EX00031

The plant was operating at 99% power when a transient occurred causing a reactor scram. Following the transient, the operator notes Breakers 7-75/1 and 8-85/1 indicate open on Bd. C.

Which one of the following explains these indications?

- A. Loss of offsite power/LOCA.
- B. Main Turbine trip.
- C. LOCA.
- D. Loss of offsite power.

WNP-2 WRITTEN EXAMINATION

QUESTION # 19

RO EXAM

10/23/2000

EX032

The plant was operating at 92% power when a transient occurred causing a scram. Following the scram, the reactor was stabilized with reactor level being controlled +13 inches to +54 inches by operator action. The CRO notes both Recirc Pumps have tripped off with only CB-RPT-3A and CB-RPT-3B open.

Which ONE of the following describes the cause of the scram?

- A. Main Turbine trip.
- B. Loss of feedwater.
- C. High Drywell Pressure
- D. APRM high flux.

WNP-2 WRITTEN EXAMINATION

QUESTION # 20

RO EXAM

10/23/2000

EX00033

The plant was operating at 82% power when the Main Turbine tripped, followed by a sudden pressure relay trip of TR-S. All equipment was operating normally prior to the trip.

Which ONE of the following is correct concerning these conditions?

- A. DG-1 and DG-2 start and close onto SM-7 and SM-8.
- B. TMU-P-1A, 1B, and 1C operate normally after power is restored to SM-7 and SM-8
- C. RFW-P-1A and RFW-P-1B control reactor water level normally following the transient.
- D. CAS-C-1A and CAS-C-1B operate normally after power is restored to SM-7 and SM-8

WNP-2 WRITTEN EXAMINATION

QUESTION # 21

RO EXAM

10/23/2000

EX00034

The plant is operating at 92% power with RCC-P-1B tagged out for maintenance. A malfunction occurs causing RWCU-V-4 only, to close and isolate RWCU.

Which ONE of the following is the correct cause of this isolation?

Loss of....

- A. control power to RCC-P-1C
- B. control power to RCC-P-1A
- C. SL-83
- D. SL-81

WNP-2 WRITTEN EXAMINATION

QUESTION # 22

RO EXAM

10/23/2000

EX00037

Which ONE of the following is the maximum reactor temperature allowed to secure CRDH and the reason for this limit?

- A. 100°F, to prevent overheating/tripping the RWCU Pumps.
- B. 212°F, to prevent boiling in the CRDH System.
- C. 250°F, to prevent damage to CRD Hydraulic Seals.
- D. 300°F, to prevent degradation to the Recirc Pump Seals.

WNP-2 WRITTEN EXAMINATION

QUESTION # 23

RO EXAM

10/23/2000

EX00041

The plant is at 25% power following a maintenance outage for work in the drywell. Primary Containment is being inerted, when the EO reported the Liquid Nitrogen Storage Tank Level at 49 inches and down slow on CN-LIS-1. CIA header pressure has been 149 psig for the last 4 minutes.

Which ONE of the following is correct for these conditions?

- A. The CIA programmers placed their respective banks in service but stopped at step 1 and CIA-V-39A and 39B remained open.
- B. The CIA programmers placed their respective banks in service and CIA-V-39A and 39B remained open.
- C. The CIA programmers placed their respective banks in service but stopped at step 1 and CIA-V-39A and 39B have isolated.
- D. The CIA programmers placed their respective banks in service and CIA-V-39A and 39B have isolated.

WNP-2 WRITTEN EXAMINATION

QUESTION # 24

RO EXAM

10/23/2000

EX00042

The plant was operating at 99% power when a transient occurred. The following conditions exist:

P603 A7 drop 2.2 RPV PRESS HIGH TRIP	Illuminated
P603 A8 drop 2.2 RPV PRESS HIGH TRIP	Illuminated
P603 A8 drop 3.4 ½ SCRAM SYSTEM B	Illuminated
Reactor Pressure RFW-PI-605	1076 psig
Reactor Power	99%

Which ONE of the following procedures is entered first/takes precedence?

- A. PPM 3.1.1 Reactor Scram
- B. PPM 4.603.A7 window 2-2 RPV PRESS HIGH TRIP
- C. PPM 5.1.1 RPV Control
- D. PPM 5.1.2 RPV Control - ATWS

WNP-2 WRITTEN EXAMINATION

QUESTION # 25

RO EXAM

10/23/2000

EX00044

The plant was operating at 99% power when a Main Turbine Trip occurred but the reactor did not scram. Direction in the EOPs is given to manually open SRVs until pressure drops to 945 psig.

Which ONE of the following describes the bases for this direction?

- A. Maintains pressure below the scram setpoint and allows resetting of the scram.
- B. Maximizes the amount of steam condensed in the wetwell.
- C. Maintains reactor water inventory in the containment.
- D. Assures that all possible energy is directed to the main condenser.

WNP-2 WRITTEN EXAMINATION

QUESTION # 26

RO EXAM

10/23/2000

EX00046

A reactor startup is underway. The following conditions exist.

All IRMs	indicate approximately 60 on range 8
Reactor pressure	720 psig
RRC-P-1A	Off

RRC-P-1B then trips.

Which ONE of the following is correct for these conditions?

- A. Insert control rods using the fast shutdown sequence until all rods are full in.
- B. Insert control rods in reverse order of the pull sheet until the reactor is subcritical.
- C. A manual scram is required as a conservative action in MODE 2.
- D. A manual scram is required to ensure the reactor is not operated in Region A.

WNP-2 WRITTEN EXAMINATION

QUESTION # 27

RO EXAM

10/23/2000

EX00047

The plant is being shutdown by control rod insertion following a short run at power. The following conditions exist:

Reactor Pressure	172 psig and going down with DEH
Reactor Power	70 on IRM R 5
Reactor Level	+ 36 inches in automatic

A scram then occurs.

Which ONE of the following could explain the cause of the scram?

- A. Pressure fluctuations from pressure control on the BPVs cause a scram on IRM upscale.
- B. Low reactor pressure results in a loss of Feed Pump discharge pressure and a scram on low reactor level.
- C. Increased voiding in the core causes a power increase and a resulting scram on IRM upscale.
- D. Pressure reduction causes a reactor power decrease and a scram on IRM downscale.

WNP-2 WRITTEN EXAMINATION

QUESTION # 28

RO EXAM

10/23/2000

EX00048

The plant is operating at 99% power with the CIRCUIT READY light extinguished for SLC-V-4A on P603. The light bulb has been verified to be good. A transient then occurs requiring the initiation of SLC and both keylock switches have been taken to the operate position.

Which ONE of the following is correct for these conditions?

- A. SLC-P-1B starts with a system flow of approximately 43 gpm.
- B. SLC-P-1B starts with a system flow of approximately 87 gpm.
- C. Both SLC Pumps start with a system flow of approximately 43 gpm.
- D. Both SLC Pumps start with a system flow of approximately 87 gpm.

WNP-2 WRITTEN EXAMINATION

QUESTION # 29

RO EXAM

10/23/2000

EX00049

The plant is operating at 10% power. The CRO notes, that all LPRM Detector Bypassed indicating lights are illuminated. The LPRM % Heat Flux meters associated with the selected rod are still indicating.

Which ONE of the following describes the reason for this indication?

- A. These lights indicate the status of the LPRM input the RMCS.
- B. An edge rod is selected on the rod select matrix.
- C. LPRMs are bypassed until 15% reactor power.
- D. An RPIS Data Fault has caused the selected LPRMs to bypass automatically.

WNP-2 WRITTEN EXAMINATION

QUESTION # 30

RO EXAM

10/23/2000

EX00050

The plant is at 28% power. The following conditions exist:

Primary Containment- A containment purge to de-inert the containment is underway.

Condensate System- COND-P-2B and 2C Condensate Booster Pumps have been tagged out for electrical problems

A transient then causes CEP-V-1A and 2A and CEP-V-3 and 4 to auto close.

Assuming no operator action, which ONE of the following caused these auto actions?

- A. A lockout on CB-N1/1 Normal Supply to SM-1.
- B. A trip of SL-73.
- C. Reactor level reduction to +5 inches.
- D. Main Condenser Vacuum reduction to 15 inches Hg.

WNP-2 WRITTEN EXAMINATION

QUESTION # 31

RO EXAM

10/23/2000

EX00051

The reactor has just scrammed after a long run at 100% power. The CRO reports all control rods are full in except 30-31, which is at position 44.

Which ONE of the following is correct for this condition?

- A. The reactor may **not** be maintained sufficiently subcritical to preclude inadvertent criticality in the shutdown condition.
- B. The reactivity transients associated with postulated accident conditions are **not** controllable within acceptable limits.
- C. The reactor will remain shutdown from all operating conditions and transients, and Design Basis Events.
- D. The reactor will remain shutdown as long as reactor coolant temperature does not decrease to less than 200°F.

WNP-2 WRITTEN EXAMINATION

QUESTION # 32

RO EXAM

10/23/2000

EX00052

The plant experienced a large LOCA and a complete Loss of Offsite Power. The following conditions exist:

Reactor pressure	4 psig
Reactor level	-175 inches and up slow
HPCS-P-1	in operation at 6038 gpm
Drywell hydrogen	3.7%
Drywell oxygen	.77 %
Drywell pressure	1.59 psig
Reactor Building pressure	-.05 in H ₂ O
Reactor Exhaust Plenum	12 mr/hr

Which ONE of the following is correct operator action for these conditions?

- A. Start SGT to maintain Reactor Building pressure.
- B. Isolate all systems discharging into Secondary Containment.
- C. Initiate CAC with suction from the drywell.
- D. Emergency depressurize the reactor.

WNP-2 WRITTEN EXAMINATION

QUESTION # 33

RO EXAM

10/23/2000

EX00053

The plant was operating at 99% power when a transient occurred. LPCS is the only ECCS Pump in service and injecting into the core. The CRO reports LPCS-P-1 amps, flow, and discharge pressure are all starting to oscillate and getting worse.

Which ONE of the following describes the cause of these indications?

- A. High drywell pressure
- B. Low reactor water level
- C. High reactor pressure
- D. Low suppression pool level.

WNP-2 WRITTEN EXAMINATION

QUESTION # 34

RO EXAM

10/23/2000

EX00054

The plant is shutdown following an extended run at rated conditions. RHR-P-2B is in operation in shutdown cooling with the head spray line open. The following actions then take place:

RHR-V-8	Closes
RHR-V-9	Remains Open
RHR-V-23	Closes
RHR-V-53B	Closes
RHR-P-2B	Trips

Which ONE of the following is the cause of these indications

- A. Loss of RPS B
- B. Hi drywell pressure
- C. Reactor level -23 inches
- D. Loss of MC-7A

WNP-2 WRITTEN EXAMINATION

QUESTION # 35

RO EXAM

10/23/2000

EX00056

The CRO has been given a surveillance to align RHR to the Standby Lineup. When he attempts to open RHR-V-4A, the valve will not open.

Which ONE of the following is the explanation of this failure to open?

- A. RHR-V-53A Shutdown Cooling Return is open.
- B. RHR-V-6A Shutdown Cooling Suction is open.
- C. RHR-V-8 Shutdown Cooling Isolation is open.
- D. RHR-V-24A Suppression Pool Return is open.

WNP-2 WRITTEN EXAMINATION

QUESTION # 36

RO EXAM

10/23/2000

EX00057

The reactor is at 80% power with turbine trip testing underway. The operator at the Turbine Front Standard places the red Turbine Trip and Reset Lever to the RESET position. The Shift Support Supervisor informs the control room they can push the Turbine Trip Pushbuttons.

Which ONE of the following is correct for this condition?

- A. When the EO releases the Turbine Trip and Reset Lever following Turbine Trip testing, the Turbine Trips.
- B. When the CRO depresses the Turbine Trip Pushbuttons, the Turbine trips.
- C. All trips are bypassed with the Turbine Trip and Reset Lever in the RESET position.
- D. Only the electrical trips from the Main Control room are bypassed with the Turbine Trip and Reset Lever in the RESET position.

WNP-2 WRITTEN EXAMINATION

QUESTION # 37

RO EXAM

10/23/2000

EX00059

The plant is in MODE 5 with fuel movement underway on the refuel floor. ARM-RIS-2 Spent Fuel Storage Area, alarms in the control room.

Which ONE of the following describes the local indication for personnel notification?

- A. A rotating amber beacon and an audible klaxon.
- B. A rotating amber beacon only.
- C. A white indicating lamp and an audible klaxon.
- D. A white indicating lamp only.

WNP-2 WRITTEN EXAMINATION

QUESTION # 38

RO EXAM

10/23/2000

EX00060

The plant was operating at 98% power, with RWCU-P-1A in operation, when a transient occurred. After the plant is stabilized, the CRO notes RWCU-P-1A has tripped off.

Which ONE of the following is the cause of this condition?

- A. Drywell pressure 1.89 psig
- B. RWCU-P-1A motor cavity temperature 102°F.
- C. RWCU system flow 120 gpm.
- D. Reactor level -55 inches.

WNP-2 WRITTEN EXAMINATION

QUESTION # 39

RO EXAM

10/23/2000

EX00061

The reactor is at 61% power with a control rod withdrawal to the 100% rod line underway. The CRO withdrawing rods receives an UPSCALE TRIP and an ALARM SET HI on the Rod Block Monitor while withdrawing a control rod.

Which ONE of the following is correct concerning these conditions.

- A. The rod block clears when the push to set up pushbutton is pushed.
- B. When rod motion stops, the RBM nulls, and the rod block clears.
- C. The rod block clears when the next control rod is selected.
- D. When core average flux equals local flux, the rod block automatically clears.

WNP-2 WRITTEN EXAMINATION

QUESTION # 40

RO EXAM

10/23/2000

EX00062

The reactor is operating at rated conditions.

Which ONE of the following describes how CRDM graphitar seal embrittlement is prevented?

- A. Cooling water from CRDH is supplied to the P-over port at a high enough flow rate to ensure sufficient cooling of the CRD Mechanism.
- B. Cooling water from CRDH is supplied to the outside of the thermal sleeve at a high enough flow rate to ensure sufficient cooling of the CRD Mechanism.
- C. The CRD Mechanism is monitored for temperature by a thermocouple in the instrument tube and maintained less than 250°F.
- D. The CRD Mechanism is monitored for temperature by a thermocouple in the outer tube and maintained less than 250°F.

WNP-2 WRITTEN EXAMINATION

QUESTION # 41

RO EXAM

10/23/2000

EX00065

The plant was operating at 80% power with Cond-P-2A and Cond-P-2B in service when Cond-P-2A tripped. Assuming no operator actions, which ONE of the following is correct concerning these conditions?

Reactor level is controlled...

- A. in the normal level band at +36 inches with Feedwater and Recirc Pumps at 60 hz.
- B. at +18 inches with Feedwater and Recirc Pumps at 30 hz..
- C. in the normal level band at +36 inches with Condensate Booster Pumps and Recirc Pumps at 15hz.
- D. between -50 inches and +54.5 inches with RCIC and HPCS, and Recirc Pumps off.

WNP-2 WRITTEN EXAMINATION

QUESTION # 42

RO EXAM

10/23/2000

EX00066

The plant is shutdown with the following conditions:

RHR-P-2B	In operation in Suppression Pool Spray
RHR-P-2A	In operation in Shutdown Cooling
Reactor Level	+60 inches

The plant then receives a high drywell pressure signal.

Which ONE of the following is correct for these conditions?

- A. RHR-V-27B Suppression Pool Spray remains open and sprays the wetwell, RHR-V-42B LPCI Injection opens, but does not inject into the core, because of reactor pressure.
- B. RHR-V-27B Suppression Pool Spray, closes, RHR-V-42B LPCI Injection opens, and the pump injects into the core.
- C. RHR-V-42B LPCI Injection opens, RHR-V-27B Suppression Pool Spray closes, but the system does not inject into the core, because of reactor pressure.
- D. RHR-V-42B LPCI Injection opens when RHR-V-27B is manually closed by the operator and then injects into the core..

WNP-2 WRITTEN EXAMINATION

QUESTION # 43

RO EXAM

10/23/2000

EX00068

The plant is operating at rated conditions when SA-PCV-2 isolates.

Assuming all plant equipment operated as designed, which ONE of the following is the cause of this condition.

- A. A leak in the service air line causing service air pressure to drop to 78 psig.
- B. A leak in the control air line causing instrument air pressure to drop to 78 psig.
- C. Trip of SA-C-1.
- D. Trip of CAS-C-1A.

WNP-2 WRITTEN EXAMINATION

QUESTION # 44

RO EXAM

10/23/2000

EX00071

The reactor is operating at 20% power when a DEH malfunction causes a 10 psig pressure increase in the reactor.

Which ONE of the following describes the effect of this pressure increase on the reactor?

- A. Reactor power increases and feedwater level control maintains reactor level at a new slightly higher equilibrium level.
- B. Reactor power decreases and feedwater level control maintains reactor level at a new slightly lower equilibrium level.
- C. Reactor level decreases, feedwater level control returns reactor level to normal at a new slightly higher power level.
- D. Reactor level increases, feedwater level control returns reactor level to normal at a new slightly lower power level.

WNP-2 WRITTEN EXAMINATION

QUESTION # 45

RO EXAM

10/23/2000

EX00072

The reactor was operating at 98% power when a turbine trip occurred. Not all rods inserted fully due to a hydraulic ATWS. Reactor power is 16%. Direction has been given by the CRS to insert control rods. The CRO notes there is an insert and withdraw rod block indicated on the RMCS.

Which ONE of the following is the cause of these indications?

- A. RBM and RPIS
- B. APRM downscale
- C. APRM inop
- D. RSCS and RWM

WNP-2 WRITTEN EXAMINATION

QUESTION # 46

RO EXAM

10/23/2000

EX00073

The plant is in MODE 5 with the full core offloaded following an extended run at rated power. The normal cooling water supply to Fuel Pool Cooling Heat Exchangers has been lost.

Which ONE of the following systems can be used as a backup cooling supply?

- A. RCC Reactor Closed Cooling Water
- B. CST Condensate Storage and Transfer
- C. TSW Plant Service Water
- D. SSW Standby Service Water

WNP-2 WRITTEN EXAMINATION

QUESTION # 47

RO EXAM

10/23/2000

EX00074

The reactor was operating at 99% power when an inadvertent containment isolation caused a scram. Not all rods fully inserted. Reactor power is still 30%.

Which ONE of the following is correct for these conditions?

Boron injection is required prior to the Suppression Pool exceeding 110°F to prevent...

- A. containment pressure from exceeding PSP.
- B. the wetwell from exceeding the HCTL.
- C. local fuel pin power from exceeding MCPR Limits.
- D. fuel bundle power from exceeding LHGR Limits.

WNP-2 WRITTEN EXAMINATION

QUESTION # 48

RO EXAM

10/23/2000

EX00075

The plant is operating at 100% power with LPCS in operation for a full flow test surveillance. The Reactor building Equipment Operator calls the control room with a LPCS Pump Room temperature of 142°F.

Which ONE of the following is correct concerning this condition?

- A. Take action to restore the room temperature to within limits immediately and perform SR 1.7.1.1 once per 4 hours and initiate a PER in 24 hours.
- B. Restore the room temperature to within limits of table 1.7.1-1 within 1 hour and initiate a PER in 24 hours.
- C. Declare LPCS-P-1 inoperable and enter the required action immediately.
- D. Take action to restore the room temperature to within limits of table 1.7.1-1 within one hour.

WNP-2 WRITTEN EXAMINATION

QUESTION # 49

RO EXAM

10/23/2000

EX00076

During a plant startup, the following main turbine generator conditions exist:

The turbine is latched
One generator output breaker is closed
Bypass valves are partially open

Which ONE of the following describes the operating mode of the Digital Electro-Hydraulic (DEH) Control System for these conditions?

- A. Mode 4, Turbine Follow Reactor Manual.
- B. Mode 1, Reactor Start.
- C. Mode 2, Turbine Start.
- D. Mode 3, Turbine Load Control

WNP-2 WRITTEN EXAMINATION

QUESTION # 50

RO EXAM

10/23/2000

EX00134

A control rod withdrawal is underway for a reactor startup. The CRO selects control rod 30-31 for withdrawal from notch 10 to 12 and verifies it is the correct rod in sequence, with no rod blocks. The CRO momentarily pushes the Withdraw Pushbutton and notes the following indications on P603:

- The RMCS Withdraw indicating Light illuminates and then extinguishes.
- The RMCS Settle indicating Light illuminates and then extinguishes.
- The RMCS Insert indicating Light does not illuminate.
- Control Rod 30-31 remains at notch 10

Based on the above indications, which ONE of the following failures caused 30-31 to remain at position 10?

- A. The rod motion sequence timer has malfunctioned, causing the insert valve (123) to remain closed.
- B. The rod motion sequence timer has malfunctioned, causing the withdraw valve (122) to remain closed.
- C. The under piston exhaust valve (120) failed open.
- D. The over piston exhaust valve (121) failed open.

WNP-2 WRITTEN EXAMINATION

QUESTION # 51

RO EXAM

10/23/2000

EX00078

The plant was operating at 99% power when an MSIV isolation occurred. The following conditions exist:

Reactor level	-15 inches and up slow
RCIC	in operation for level control
Suppression pool temperature	91°F and up slow
RHR-P-2A	in operation on minimum flow
RHR-P-2B	in operation on minimum flow
RHR-P-2C	Off - Overcurrent lockout
HPCS-P-1	Off - Sheared shaft

A Hi Dywell pressure signal was received 3 minutes ago.

Which ONE of the following are the correct actions for these conditions?

Open ...

- A. RHR-V-27A and 27B(Suppression Pool Spray), RHR-V-24A and 24B(Sup. Pool Test Return) full open. Close RHR-V-48A and 48B.
- B. RHR-V-27A (Suppression Pool Spray), RHR-V-24A (Sup. Pool Test Return) full open. Close RHR-V-48A and 48B. Open RHR-V-42B(LPCI Injection)
- C. RHR-V-24A and 24B(Sup. Pool Test Return) full open. Close RHR-V-48A and 48B when the 10 minute open interlock has cleared.
- D. RHR-V-42A and RHR-V-42B (LPCI Injection Valves) until reactor level is greater than +13inches. Then open RHR-V-27A and 27B(Suppression Pool Spray), RHR-V-24A and 24B(Sup. Pool Test Return) full open. Close RHR-V-48A and 48B.

WNP-2 WRITTEN EXAMINATION

QUESTION # 52

RO EXAM

10/23/2000

EX00079

The plant was operating at 99% power when a transient caused reactor pressure to increase to 1153 psig. Both RRC Pumps have tripped off.

Which ONE of the following describes the basis for this trip?

- A. Tripping the Recirc Pumps increases Core Inlet Subcooling, which reduces reactor power.
- B. The Boiling Boundary in the core moves up the fuel channel when the Recirc Pumps are tripped, which adds negative reactivity.
- C. Recirc Pumps are tripped to overcome the power increase caused by the moderator temperature increase from the increasing reactor pressure.
- D. Additional negative reactivity is added by increased voiding in the core caused by tripping the RRC Pumps.

WNP-2 WRITTEN EXAMINATION

QUESTION # 53

RO EXAM

10/23/2000

EX00081

Which ONE of the following describes the reason for ensuring boron injection prior to the Boron Injection Initiation Temperature?

- A. The magnitude of power oscillations is reduced by the initiation of the SLC System as the boron concentration in the core increases.
- B. Inlet subcooling is reduced by the early injection of boron into the core, which reduces the magnitude of power oscillations.
- C. Boron injection with increased core inlet subcooling is more effective at reducing core power during an ATWS.
- D. Boron enters the core more quickly at higher power levels and is more effective at reducing core power.

WNP-2 WRITTEN EXAMINATION

QUESTION # 54

RO EXAM

10/23/2000

EX00083

A transient has occurred causing combustible levels of H₂ in the Drywell and combustible levels of O₂ in the Wetwell. Wetwell level is 36 feet. The direction has been given to purge the wetwell with the Low Flow N₂ system without an established vent path.

Concerning these conditions, which ONE of the following describes the result of this direction?

- A. The N₂ purge may cause the code allowable stresses to be exceeded on the SRV Tailpipes if there is a blowdown.
- B. A Wetwell N₂ purge forces the O₂ atmosphere through the wetwell, reducing the amount of O₂ entering the drywell.
- C. The nitrogen purge may cause the loss of the Wetwell to Drywell Interface and the loss of the Pressure Suppression Function.
- D. A loss of containment integrity and an uncontrolled release of radioactivity to the environment may occur.

WNP-2 WRITTEN EXAMINATION

QUESTION # 55

RO EXAM

10/23/2000

EX00084

The plant is operating at 90% power with Condensate Demineralizers A through E in service, when the RW Control Room Operator notices a sudden and substantial decrease in Condensate Demineralizer ΔP .

Which ONE of the following describes the cause of this indication?

- A. Uncontrolled increase in RRC-P-1A and 1B speed.
- B. High level trip of the 6A Feedwater Heater.
- C. A broken air line to COND-V-76 Condensate Demin Bypass
- D. A broken air line to COND-V-211A Condensate Demin 1A inlet.

WNP-2 WRITTEN EXAMINATION

QUESTION # 56

RO EXAM

10/23/2000

EX00085

The plant was operating at 99% power when a fire caused the control room to be abandoned. SW-P-1A is inoperable due to an overcurrent lockout. There has been a complete loss of offsite power.

Which ONE of the following is correct for these conditions?

- A. From the Remote Shutdown panel, operate RCIC and RHR-P-2B for reactor level control and Suppression Pool Temperature control.
- B. From the Alternate Remote Shutdown panel, operate RHR-P-2B for Suppression Pool Temperature control.
- C. From the Remote Shutdown panel, operate RCIC and RHR-P-2A for reactor level control and Suppression Pool Temperature control.
- D. From the Alternate Remote Shutdown panel, operate RHR-P-2A for Suppression Pool Temperature control.

WNP-2 WRITTEN EXAMINATION

QUESTION # 57

RO EXAM

10/23/2000

EX00086

The plant is in MODE 5 with a valid isolation signal from high drywell pressure signal testing. Single control rod scram testing is underway following CRD Drive rebuilds. Annunciator REACTOR BLDG FLOOR SUMP R3 LEVEL HI-HI (HPCS Pump Room) illuminates.

Which ONE of the following is the cause of this annunciator?

- A. A broken Drywell cooler supply (RCC) line.
- B. A large packing leak on CRD Pump 1A.
- C. Hi Scram discharge volume flow rate.
- D. A leak on the suction flange of SLC-P-1A.

WNP-2 WRITTEN EXAMINATION

QUESTION # 58

RO EXAM

10/23/2000

EX00087

The plant is in MODE 5 with CRD and RWCU maintaining reactor level at +85 inches. Both RHR-P-2A and 2B in operation in Shutdown Cooling when DIV 1 125 VDC is lost. Before the loss of DC can be corrected, a leak in the discharge of RHR-P-2A causes reactor level to decrease rapidly.

Assuming no operator actions, which ONE of the following is correct for these conditions?

When reactor level decreases to less than +13 inches...

- A. RHR-P-2A and 2B trip, RHR-V-8, 9, 53A, 53B, and 23 close.
- B. RHR-P-2A and 2B trip, RHR-V-9, 53A, 53B close and RHR-V-8 and 23 remain open (if open).
- C. RHR-P-2A trips, RHR-V-8, 9, 53A, 53B, and 23 (if open) close.
- D. RHR-P-2B trips, RHR-V-8, 9, 53A, and 53B close, RHR-V-23 remains open (if open).

WNP-2 WRITTEN EXAMINATION

QUESTION # 59

RO EXAM

10/23/2000

EX00088

The plant is operating at 98% power with a Low Pressure Turbine inlet temperature of 550°F at 145 psig.

Which ONE of the following is correct concerning the MSR superheat process?

- A. The MSR Second Stage Reheater uses cross-under steam to add enough enthalpy to the low pressure turbine inlet for 203°F of superheat.
- B. The MSR Second Stage Reheater uses high temperature saturated main steam to add enough enthalpy to the low pressure turbine inlet for 186°F of superheat.
- C. The MSR First Stage Reheater uses high temperature saturated main steam to add enough enthalpy to the low pressure turbine inlet for 203°F of superheat.
- D. The MSR First Stage Reheater uses cross-under steam to add enough enthalpy to the low pressure turbine inlet for 186°F of superheat.

WNP-2 WRITTEN EXAMINATION

QUESTION # 60

RO EXAM

10/23/2000

EX00090

PPM 5.4.1 Radioactivity Release Control has been entered. Direction is given in the procedure to enter PPM 5.1.1 RPV Control.

Which ONE of the following describes the basis for this direction?.

- A. Forces the reduction of reactor level and a corresponding decrease in reactor power.
- B. Places the energy contained in the reactor at the lowest value possible.
- C. Allows for emergency depressurization and a resultant reactor power reduction.
- D. Reduces the energy of the RPV discharge to the environment to decay heat levels.

WNP-2 WRITTEN EXAMINATION

QUESTION # 61

RO EXAM

10/23/2000

EX00091

The plant is in MODE 5 with fuel movement underway. The CRO notes both EDR-V-394 and 395, EDR-P-5 Discharge to Waste Collector Tank in Radwaste, have closed.

Which ONE of the following causes these indications?

- A. Reactor Water Level -35 inches
- B. Drywell pressure 1.59 psig
- C. ARM-RIS-23, CRD Pump Room, 215 mr/hr
- D. Rx Building Exhaust Plenum 16 mr/hr

WNP-2 WRITTEN EXAMINATION

QUESTION # 62

RO EXAM

10/23/2000

EX00092

The plant is operating at 99% power when a seal failure on RWCU-P-1A causes a high ambient temperature in RWCU-P-1A pump room.

Which ONE of the following is a result of this failure?

- A. RWCU-V-1 Inboard Isolation only auto closes.
- B. RWCU-FCV-33 Blowdown Flow Control auto closes.
- C. RWCU-V-104 Filter Demin bypass auto opens.
- D. RWCU-V-35 Discharge to Radwaste auto closes.

WNP-2 WRITTEN EXAMINATION

QUESTION # 63

RO EXAM

10/23/2000

EX00093

The plant was operating at 99% power when a LOCA occurred. The CRS directed the CRO to start MSLC. Both Inboard and Outboard Systems started and all auto actions occurred. The CRO checked the system 5 minutes later and found a normal system lineup except, MSLC-V-1A, 2A, and 3A, Inboard Main Steam Line "A" Bleed and Depressurization Valves were closed.

Which ONE of the following caused these indications?

- A. Steam Line pressure between the "A" MSL MSIVs greater than 3.7 psig, 1 minute after initiation.
- B. Steam Line pressure greater than 41 psig downstream from the outboard "A" MSL MSIVs.
- C. Reactor pressure greater than 41 psig.
- D. MSLC-FN-1 dilution flow greater than 50 scfh for 10 minutes following system initiation.

WNP-2 WRITTEN EXAMINATION

QUESTION # 64

RO EXAM

10/23/2000

EX00094

Which ONE of the following describes the reason for a Recirc Pumps speed runback at the scram setpoint for reactor level rather than a Recirc Pump trip at the same level?

The runback ...

- A. adds enough negative reactivity to overcome the effect of void collapse following the scram.
- B. provides for adequate core flow during possible ATWS conditions.
- C. prevents fuel element vibration from high flow/low power conditions.
- D. prevents unnecessary delays in scram recovery due to vessel bottom head thermal stratification.

WNP-2 WRITTEN EXAMINATION

QUESTION # 65

RO EXAM

10/23/2000

EX00096

The plant is operating at 99% power with a small steam leak in the drywell. RCIC is in operation for a surveillance. The following conditions exist

Wetwell temperature	91°F
Drywell temperature	132°F
Wetwell level	+1.8 inches
Drywell pressure	1.1 psig

Which ONE of the following is correct concerning these conditions?

- A. One loop of RHR in operation is adequate for wetwell temperature reduction.
- B. HPCS is operated with flow to the Condensate Storage Tanks to reduce the increasing suppression pool level.
- C. Available drywell cooling is operated prior to initiation of more complex actions to terminate the increasing drywell temperature.
- D. The drywell is vented through CEP-V-1A and CEP-V-2A, 24 inch drywell vent valves to prevent exceeding the drywell initiation pressure.

WNP-2 WRITTEN EXAMINATION

QUESTION # 66

RO EXAM

10/23/2000

EX00097

The plant is operating at 98% power. A fire alarm is received in the control room. Ops 2 reports a large fire involving IN-3.

Which ONE of the following is correct for these conditions?

Use...

- A. - MS-LR/PR-623A for accurate reactor level indication
- Use Div 1 safe shutdown equipment.
- B. - MS-LR/PR-623B for accurate reactor level indication.
- If RCIC initiates and manual control cannot be established, trip the mechanical overspeed lever within 24 minutes of initiation.
- Use Div 2 safe shutdown system.
- C. - MS-LR/PR-623A for accurate reactor level indication.
- Open the breaker for SW-V-187B (MC-8BA/10C), then locally verify the valve is in the proper alignment, within one hour of the start of the fire.
- D. - MS-LR/PR-623B for accurate reactor level indication.
- Within 1 hour and at least every 30 minutes thereafter, check Battery Charger C1-2 GT 110 volts.
- If C1-2 voltage is LE 110 volts, scram the reactor and emergency depressurize within 30 minutes.

WNP-2 WRITTEN EXAMINATION

QUESTION # 67

RO EXAM

10/23/2000

EX00135

The plant is operating at 98% power. At 1500 Wednesday, RHR-P-2C is declared inoperable due to a motor failure. At 1900 Wednesday, DG-1 and all systems supported by the diesel are declared inop.

Which ONE of the following is correct concerning these conditions?

- A. Restore RHR-P-2C to operable status in 7 days from 1500 Wednesday.
- B. Restore DG-1 to operable status by 1900 Thursday.
- C. Perform SR 3.8.1.1 for OPERABLE offsite circuits by 2000 Wednesday, and restore DG-1 to OPERABLE status by 0700 Saturday.
- D. Take action within 1 hour (from 1900 Wednesday) to place the unit in MODE 2 within 7 hours, MODE 3 within 13 hours and MODE 4 within 37 hours.

WNP-2 WRITTEN EXAMINATION

QUESTION # 68

RO EXAM

10/23/2000

EX00101

The plant was operating at 40% power when an automatic reactor scram occurred. After the plant was stabilized, the CRO noted EDR-V-19, EDR-V-20, FDR-V-3, and FDR-V-4 on P601 had auto closed.

Which ONE of the following describes the reason for these indications?

- A. Small steam leak in the drywell.
- B. Large vacuum leak in the main condenser.
- C. Reactor level +5 inches.
- D. All four BPVs fail open.

WNP-2 WRITTEN EXAMINATION

QUESTION # 69

RO EXAM

10/23/2000

EX00102

The plant was operating at 98% power when a Main Turbine Trip causes a reactor scram. The lights in the control room go out for approximately 4 seconds and then some of the lights come back on.

Which ONE of the following is correct for these conditions?

- A. BKR S-1, S-2, and S-3 have closed and are providing power.
- B. BKR N-1, N-2, and N-3 have closed and are providing power.
- C. SM-7 and SM-8 are powered from DG-1 and DG-2.
- D. SM-7 and SM-8 are powered from TR-B.

WNP-2 WRITTEN EXAMINATION

QUESTION # 70

RO EXAM

10/23/2000

EX00103

The plant was operating at 98% power when a FWLC failure caused the speed of both Reactor Feed Pumps to ramp up.

Which ONE of the following is correct concerning these conditions?

- A. Before reactor level reaches +108 inches, manually scram the reactor, close the inboard MSIVs, and trip both reactor feed pumps.
- B. Before reactor level reaches +108 inches, manually scram the reactor, close the inboard MSIVs, and trip all condensate booster pumps.
- C. When reactor level exceeds +80 inches, close all MSIVs, manually scram the reactor, and trip both feed pumps.
- D. When reactor level exceeds +80 inches, close all MSIVs, manually scram the reactor, and trip all condensate booster pumps.

WNP-2 WRITTEN EXAMINATION

QUESTION # 71

RO EXAM

10/23/2000

EX00104

The plant is operating at 97% power. The following conditions exist:

Reactor pressure	1022 psig
Reactor level	+36 inches
Suppression Pool Temperature	84°F and up slow
Suppression Pool Level	+1 inch and up slow
RCIC	In operation for a surveillance

Annunciator P603.A7.1-1 ANNUNCIATOR 125 VDC LOSS illuminates.

Which ONE of the following is correct for these conditions?

- A. Station a CRO at P601/P602, P603, and Board A/B/C to monitor plant parameters. Do not change the operational status of any plant systems except for emergencies.
- B. Monitor suppression pool temperature at least 1 time every 5 minutes and station a CRO to continuously monitor level, pressure, and power.
- C. Immediately trip RCIC.
- D. Shutdown RCIC per PPM 2.4.6.

WNP-2 WRITTEN EXAMINATION

QUESTION # 72

RO EXAM

10/23/2000

EX0105

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

Reactor Pressure	26 psig
Reactor level	+2 inches and stable
Drywell temperature	210 °F
Drywell pressure	22 psig

Which ONE of the following is the correct level instrument to use under these conditions?

- A. Narrow Range
- B. Upset Range
- C. Wide Range
- D. Shutdown/Flooding Range

WNP-2 WRITTEN EXAMINATION
RO EXAM

QUESTION # 73

10/23/2000

EX00106

A fire in the Circwater Pumphouse causes both TSW Pumps to trip and lockout.

Which ONE of the following can be cooled by an alternate system?

- A. Control and Service Air Compressors
- B. Turbine Lube Oil Coolers
- C. Isophase Bus Ducts
- D. Reactor Feed Pump Turbine Lube Oil Coolers

WNP-2 WRITTEN EXAMINATION

QUESTION # 74

RO EXAM

10/23/2000

EX00107

Annunciator 4.FCP.1.3-2, RX BLDG 471' GENERAL AREA has just alarmed. It is a fire alarm. Shortly thereafter, Ops 2 reports on the radio that there is heavy smoke coming up the NW stairwell on the 501 level in the Reactor Building.

Which ONE of the following is correct for this condition?

Immediately ...

- A. Sound the alerting tone for ≈ 5 seconds.
Announce the location of the fire and direct the Fire Brigade with the ROLM PA.
Notify Security to call out the Hanford Fire Department.
- B. Sound the alerting tone for ≈ 5 seconds.
Announce the location of the fire and direct the Fire Brigade with the ROLM PA.
Repeat these 2 steps.
- C. Notify the Hanford Fire Department by manually depressing the notification pushbutton.
Announce the location of the fire with the ROLM PA.
Repeat these 2 steps.
- D. Notify the Hanford Fire Department by manually depressing the notification pushbutton.
Announce the location of the fire with the ROLM PA.
Notify the Fire Brigade of the location of the fire by radio.

WNP-2 WRITTEN EXAMINATION

QUESTION # 75

RO EXAM

10/23/2000

EX0108

The plant is shutdown for a refueling outage. The following conditions exist:

SM-8	out of service for bus maintenance
ROA-FN-1A	In automatic operation
REA-FN-1A	In automatic operation

REA-FN-1A trips due to an overcurrent. Due to workload in the control room, the CRO does not get back to Board R for 4 minutes.

Which ONE of the following is correct for these conditions?

Immediately ...

- A. Trip ROA-FN-1A
Start Lag Fan SGT-FN-1B1 for Secondary Containment Pressure Control
- B. Trip ROA-FN-1A
Start Lead Fan SGT-FN-1B2 for Secondary Containment Pressure Control
- C. Ensure ROA-V-1, ROA-V-2, REA-V-1, and REA-V-2 are closed.
Start Lag Fan SGT-FN-1A2 for Secondary Containment Pressure Control
- D. Ensure ROA-V-1, ROA-V-2, REA-V-1, and REA-V-2 are closed.
Start Lead Fan SGT-FN-1A1 for Secondary Containment Pressure Control

WNP-2 WRITTEN EXAMINATION

QUESTION # 76

RO EXAM

10/23/2000

EX00109

Preparations are underway for control rod withdrawal for a plant startup. The CRO notices CRD System flow at 82 gpm.

Which ONE of the following is correct for these indications?

- A. Double notching could occur in response to single notch withdraw signals.
- B. Graphitar seal failure could result from thermal shocking.
- C. Control rod overtravel could occur when a rod is withdrawn to position 48.
- D. Low drive header ΔP could result in the inability to move control rods.

WNP-2 WRITTEN EXAMINATION

QUESTION # 77

RO EXAM

10/23/2000

EX00110

The following plant conditions exist following an extended run at rated conditions:

Reactor level	-137 inches for the last 3 minutes – now up slow
SM-7	out of service
HPCS-P-1	in operation and injecting into the core
TRS	Out of service – Sudden Pressure Relay
RHR-P-2B and 2C	Manually tripped off
ADS	NOT inhibited

Which ONE of the following describes the ADS response to a manual start of RHR-P-2C?

- A. All ADS SRVs open immediately when the breaker for RHR-P-2C closes.
- B. RHR-P-2C discharge pressure GE 125 psig causes all ADS SRVs to open immediately.
- C. RHR-P-2C has no effect on the initiation logic for ADS.
- D. All ADS SRVs open 105 seconds following the start of RHR-P-2C.

WNP-2 WRITTEN EXAMINATION

QUESTION # 78

RO EXAM

10/23/2000

EX00015

The plant was operating at 98% power when a transient occurred. The following conditions now exist:

Reactor Power	3%
Reactor Pressure	820 psig down slow
Reactor Level	-168 inches up slow
HPCS-P-1	injecting with a flow rate of 1225 gpm
Control rods	None have inserted

Which ONE of the following is correct concerning these conditions?

Adequate core cooling is being maintained by ...

- A. Steam Cooling without injection
- B. Core Submergence
- C. Steam Cooling with injection
- D. Spray Cooling

WNP-2 WRITTEN EXAMINATION

QUESTION # 79

RO EXAM

10/23/2000

EX00112

The reactor was at 100% power when a loss of SM-1 occurred. Several minutes following the transient, a high suppression pool level annunciator is received.

Which ONE of the following is the reason for this annunciator?

Suppression pool level increases due to ...

- A. HPCS on minimum flow.
- B. RHR A on minimum flow.
- C. RHR B on minimum flow.
- D. RCIC on minimum flow.

WNP-2 WRITTEN EXAMINATION

QUESTION # 80

RO EXAM

10/23/2000

EX00113

The plant has just scrammed from 99% power. Reactor level is -17 inches and is being returned to the normal band with Feedwater. The CRS has directed you to verify isolations.

Which ONE of the following is correct for these conditions?

Isolations can be verified by touching the status bar at the bottom of the GDS Screen labeled ...

- A. Containment Integrity
- B. Radioactivity Control
- C. Coolant System Integrity
- D. Overview

WNP-2 WRITTEN EXAMINATION

QUESTION # 81

RO EXAM

10/23/2000

EX00114

COND-P-2A has been tagged out for maintenance. The clearance has been cleared and the direction to remove the danger tags and open the suction and discharge valves has been given. The suction valve has been opened, but the operator notes there is no danger tag on the discharge valve as required on the clearance order.

Which ONE of the following is correct for this condition?

- A. Continue restoration of the equipment and notify the Production RO when the restoration is complete.
- B. Continue restoration of the equipment and notify Operations Supervision when the restoration is complete.
- C. Stop restoration of the equipment and notify Operations Supervision.
- D. Stop restoration of the equipment and notify the Production RO.

WNP-2 WRITTEN EXAMINATION

QUESTION # 82

RO EXAM

10/23/2000

EX00115

The plant is in MODE 3 with a reactor level reduction through the A RHR Heat Exchanger Vents to the Suppression Pool. The Suppression Pool high level alarm has been sealed in for a period of time, when the HPCS Suction Switchover occurs.

Which ONE of the following describes the required action for these conditions?

- A. Be in MODE 4 in 36 hours.
- B. Restore suppression pool water level to within limits and restore HPCS suction to the CSTs within 2 hours.
- C. Enter PPM 5.2.1 Primary Containment Control and restore suppression pool water level to within limits in 12 hours.
- D. Enter PPM 5.2.1 Primary Containment Control and restore suppression pool water level to within limits in 2 hours.

WNP-2 WRITTEN EXAMINATION

QUESTION # 83

RO EXAM

10/23/2000

EX00116

PPM 3.1.2 Reactor Plant Startup requires that SRMs be completely withdrawn when all IRMs are on Range 3 or higher.

Which ONE of the following describes the reason for this direction?

- A. SRM withdrawal at higher power levels may not be possible due to detector overheating and expansion.
- B. SRM insertion at high power levels leads to reduced life expectancy of the detector.
- C. SRM UPSCALE HI Rod Block is bypassed on IRM range 3.
- D. SRM UPSCALE HI HI trip is bypassed on IRM range 3.

WNP-2 WRITTEN EXAMINATION

QUESTION # 84

RO EXAM

10/23/2000

EX00117

The plant is in MODE 3 with a cooldown to cold conditions in progress. Reactor pressure is 192 psig. RCIC-P-3 (water leg pump) then shears the pump shaft. The first indication the crew receives of the shaft shear is a RCIC WATERLEG PUMP DISCH PRESS LOW annunciator.

Which ONE of the following is correct for these conditions?

- A. Reduce reactor pressure to LE 150 psig in 36 hours.
- B. Immediately start RCIC-P-1 with the arm and depress pushbutton.
- C. Perform a manual start of RCIC-P-1 using RCIC-V-1 as a steam throttle valve.
- D. Immediately verify by administrative means that HPCS is operable.

WNP-2 WRITTEN EXAMINATION

QUESTION # 85

RO EXAM

10/23/2000

EX00118

The plant is operating at 97% power when Narrow Range “A” transmitter, RFW-DPT-4A fails upscale. Feedwater level control automatically selects the “B” level transmitter. Later in the shift, RFW-DPT-4A is repaired, but before it can be placed back in service, the “B” level transmitter fails downscale.

Which ONE of the following describes the plant response to these failures?

- A. The Programmable Logic Controller automatically selects the “C” level transmitter.
- B. The Programmable Logic Controller automatically reselects the “A” level transmitter.
- C. FWLC sees the level indicated downscale and increases feedwater flow to increase level.
- D. RFW speed controllers auto shift to MDEM and maintain current RFPT speed.

WNP-2 WRITTEN EXAMINATION

QUESTION # 86

RO EXAM

10/23/2000

EX00119

The plant is operating at 95% power with DG-1 in operation at idle speed for a surveillance. The Idle Speed Selector Switch is in the IDLE position. A DBA LOCA then occurs.

Which ONE of the following describes the condition of DG-1?

- A. At rated speed with the output breaker open.
- B. At rated speed with the output breaker closed.
- C. At idle speed with the output breaker open.
- D. Tripped from an incomplete start sequence.

WNP-2 WRITTEN EXAMINATION

QUESTION # 87

RO EXAM

10/23/2000

EX00120

A control rod withdrawal is underway for a plant startup. All control rods in RWM Groups 1 and 2 have been withdrawn to position 48. The CRO selects the first rod in Group 3 and withdraws it from position 00 using the Continuous Withdraw pushbutton to position 04, where it stops by automatic action. No rod block annunciators are received on P603

Which ONE of the following explains these conditions?

- A. A rod block has been applied by the RWM due to the selected control rod reaching its group 3 limit.
- B. The RMCS has blocked the withdraw command due to an Activity Control Unit disagreement.
- C. The RSCS did not inhibit the rod motion requested in the RMCS.
- D. The RBM is enforcing the Banked Position Withdraw Sequence.

WNP-2 WRITTEN EXAMINATION

QUESTION # 88

RO EXAM

10/23/2000

EX00121

A plant startup is underway. The following conditions exist:

APRM A, E, D	11%
APRM C and B	13%
APRM F	out of service – bypassed
IRM indications	25 to 35 on R10 for A, C, E, B, F, and H
IRM G	out of service – bypassed
IRM D	41 R10
Reactor pressure	819 psig

Which ONE of the following is the correct decision concerning these conditions?

- A. Do not place the Mode Switch in RUN, a scram will occur from APRM C and D.
- B. Do not place the Mode Switch in RUN, an MSL isolation will occur.
- C. Place the Mode Switch in RUN, a mode change to RUN is allowed with at least 2 APRMs per trip system above 5%.
- D. Place the Mode Switch in RUN, a mode change to RUN is allowed with at least 3 IRMs per trip system LE 40 on R10

WNP-2 WRITTEN EXAMINATION
RO EXAM

QUESTION # 89

10/23/2000

Ex00122

A valve in a high high rad area has to be closed to prevent uncovering the core.

Which ONE of the following is the maximum administrative dose for an individual to complete this task?

- A. 10 rem TEDE
- B. 15 rem TEDE
- C. 20 rem TEDE
- D. 25 rem TEDE

WNP-2 WRITTEN EXAMINATION

QUESTION # 90

RO EXAM

10/23/2000

EX00123

The plant is operating at 98% power with RHR-P-2B in operation in Suppression Pool Cooling at 7000 gpm. A transient occurs causing a reactor scram. Following the transient, RHR-P-2A remains in operation with the Minimum Flow Valve, RHR-FCV-64A open, but no flow indicated on through RHR-A. All systems operated as designed.

Which ONE of the following transients is the cause of these indications?

- A. MSIV Isolation.
- B. Loss of Feedwater.
- C. DBA LOCA
- D. Small steam leak in the drywell.

WNP-2 WRITTEN EXAMINATION

QUESTION # 91

RO EXAM

10/23/2000

EX00124

The plant is operating at 92% power when a crack opens around a penetration into the main condenser. Vacuum is decreasing and is now 22 inches of HG or 8 inches of backpressure. Vacuum continues to decrease.

Which ONE of the following is correct for the current conditions?

Immediately ...

- A. reduce turbine load to bring vacuum within allowable limits.
- B. start the second air ejector.
- C. manually scram the reactor.
- D. start both mechanical vacuum pumps.

WNP-2 WRITTEN EXAMINATION

QUESTION # 92

RO EXAM

10/23/2000

EX00125

The plant is operating at 99% power. FPC-DM-1A is in service and is slowly plugging.

Assuming no operator action, which ONE of the following describes the FPC response?

- A. FPC-FCV-1 Demin Bypass opens to maintain 575 gpm flow through the demineralizer. If ΔP is GE 50 psid, FPC-FCV-15A Demin Outlet fully opens.
- B. FPC-FCV-15A Demin Outlet opens to maintain 575 gpm flow through the demineralizer. If ΔP is GE 50 psid, FPC-FCV-1 Demin Bypass opens.
- C. FPC-V-175 Demin Bypass opens fully when FPC Demineralizer ΔP exceeds 50 psid.
- D. FPC-V-172 HX Discharge to Demin opens fully when FPC Demineralizer ΔP exceeds 50 psid.

WNP-2 WRITTEN EXAMINATION

QUESTION # 93

RO EXAM

10/23/2000

EX00126

The plant is operating at 99% power. A leak in the Nitrogen Supply Header has forced the operators to manually close CN-V-65 (CIA Crosstie).

Which ONE of the following describes the effect on the SRVs?

Non ADS SRVs can be operated ...

- A. 0 times.
- B. 1 time.
- C. 8 times
- D. 16 times.

WNP-2 WRITTEN EXAMINATION

QUESTION # 94

RO EXAM

10/23/2000

EX00127

The plant scrammed from an MSIV isolation 10 minutes ago. RCIC is in automatic maintaining level at +35 inches, when DP-S1-1A trips.

Which ONE of the following describes the effect on RCIC operation?

- A. RCIC continues to operate, flow cannot be changed from the control room.
- B. RCIC continues to operate, flow can be changed manually by throttling RCIC-V-1.
- C. RCIC trips from a mechanical overspeed due to the bias set into the EGR controller.
- D. RCIC trips when the steam supply valve, RCIC-V-8 closes on loss of power.

WNP-2 WRITTEN EXAMINATION

QUESTION # 95

RO EXAM

10/23/2000

EX00128

The plant was operating at 100% power when a transient occurred. The following conditions exist:

Reactor Pressure	1021 and up slow
CN-V-65	Closed
DP-S1-1A	Tripped off.

Which ONE of the following is correct for pressure control?

Control SRVs from ...

- A. P631 Div 2, only
- B. P628 Div 1, only
- C. P601, P631 Div 2, or P628 Div 1
- D. P628 Div 1 or P631 Div 2

WNP-2 WRITTEN EXAMINATION

QUESTION # 96

RO EXAM

10/23/2000

EX00129

The plant is operating at 99% power when the HP HEATER 6A LEVEL HI TRIP annunciator illuminates.

Which ONE of the following is correct concerning this condition?

- A. BS-V-7A Non Return Valve and BS-DV-6A open and dump steam to the MSR 2nd Stage Reheater
BS-V-6A MO Steam Supply closes
- B. BS-V-7A Non Return Valve and BS-DV-6A open and dump steam to the condenser
BS-V-6A MO Steam Supply closes
- C. BS-V-6A MO Steam Supply and BS-V-7A Non Return Valve close
BS-DV-6A opens and dumps steam to the MSR 2nd Stage Reheater.
- D. BS-V-6A MO Steam Supply and BS-V-7A Non Return Valve close
BS-DV-6A opens and dumps steam to the condenser.

WNP-2 WRITTEN EXAMINATION

QUESTION # 97

RO EXAM

10/23/2000

EX00130

The Waste Demineralizer, EDR-DM-9 has been backwashed into the Waste Sludge Phase Separator Tank, FDR-TK-22. A leak in the tank is allowing spent resin to drain onto the floor of the 437 feet elevation of the Radwaste Building. ARM-RIS-29 indicates 350 mR/hr.

Which ONE of the following is correct for these conditions?

- A. Immediately start FDR-P-36, Waste Decant Pump, and pump the contents of FDR-TK-22 to the Waste Collector Tank.
- B. Verify the alarm by an alternate method if possible then direct all personnel to leave the area.
- C. Announce a Radwaste Building Evacuation and stop all RW HVAC fans.
- D. Immediately start FDR-P-23, Waste Sludge Discharge Mixing Pump, and pump the contents of FDR-TK-22 to the Waste Collector Tank.

WNP-2 WRITTEN EXAMINATION

QUESTION # 98

RO EXAM

10/23/2000

EX00131

The plant was operating at 99% power when a loss of feedwater occurred. Reactor level has been returned to normal with HPCS. The CRS is giving a brief, when CRO3 notes Suppression Pool level is +3 inches and up slow.

Which ONE of the following is correct for these conditions?

CRO3...

- A. and CRO1 should coordinate and lower Suppression Pool Level following the brief.
- B. should ensure the HPCS suction from the CSTs is open while the brief is in progress.
- C. should interrupt the CRS to announce an EOP entry condition on Suppression Pool Level.
- D. should immediately trip HPCS and start RCIC for Reactor level control.

WNP-2 WRITTEN EXAMINATION

QUESTION # 99

RO EXAM

10/23/2000

EX00132

The plant is in MODE 3 and the CRS has directed you to flush RHR to Radwaste in preparation for starting Shutdown Cooling per PPM 2.4.2.

Which ONE of the following is correct for this condition?

RHR can be flushed to ...

- A. MWR-TK-23A/B Chemical Waste Tank
- B. FDR-TK-9 Floor Drain Sample Tank
- C. EDR-TK-4A/B Waste Sample Tanks
- D. EDR-TK-5 Waste Surge Tank

WNP-2 WRITTEN EXAMINATION
RO EXAM

QUESTION # 100

10/23/2000

EX00133

The reactor is in MODE 2 at 10% power with control rod withdrawal underway when the RWM Program aborts.

According to plant procedures, which ONE of the following is correct for these conditions?

- A. Stop all control rod movement except by manual scram.
- B. Rod motion may continue as long as the RSCS is operable.
- C. A second licensed operator is required to manually verify all rod movement prior to the actual movement of the control rod.
- D. The STA or other qualified member of the plant Tech Staff is required to verify rod movement prior to the actual movement of the control rod.

REACTOR OPERATOR - ANSWER SHEET

Multiple Choice (Circle your choice)

NAME: _____

If you change your original answer, draw a single line through the error, enter the desired answer, and initial the change.

- | | | | | | | | | | | |
|-----|----------|----------|----------|----------|-----------------|----------|----------|----------|----------|----------|
| 1. | a | b | <u>c</u> | d | 24. | a | b | <u>c</u> | d | |
| 2. | <u>a</u> | b | c | d | 25. | a | b | c | <u>d</u> | |
| 3. | a | b | <u>c</u> | d | 26. | a | b | <u>c</u> | d | |
| 4. | a | b | <u>c</u> | d | 27. | <u>a</u> | b | c | d | |
| 5. | a | b | c | <u>d</u> | 28. | a | b | c | <u>d</u> | |
| 6. | a | b | <u>c</u> | d | 29. | a | <u>b</u> | c | d | |
| 7. | a | <u>b</u> | c | d | 30. | <u>a</u> | b | c | d | |
| 8. | a | b | c | <u>d</u> | 31. | a | b | <u>c</u> | d | |
| 9. | a | b | <u>c</u> | d | 32. | a | b | <u>c</u> | d | |
| 10. | a | b | c | <u>d</u> | 33. | a | b | c | <u>d</u> | |
| 11. | <u>a</u> | <u>b</u> | c | d | (accept a or b) | 34. | a | b | c | <u>d</u> |
| 12. | a | b | <u>c</u> | d | 35. | a | <u>b</u> | c | d | |
| 13. | a | <u>b</u> | c | d | 36. | a | <u>b</u> | c | d | |
| 14. | <u>a</u> | b | c | d | 37. | <u>a</u> | b | c | d | |
| 15. | a | b | c | <u>d</u> | 38. | a | b | c | <u>d</u> | |
| 16. | a | b | <u>c</u> | d | 39. | a | b | <u>c</u> | d | |
| 17. | <u>a</u> | b | c | d | 40. | a | b | <u>c</u> | d | |
| 18. | <u>a</u> | b | c | d | 41. | a | b | c | <u>d</u> | |
| 19. | a | <u>b</u> | c | d | 42. | a | <u>b</u> | c | d | |
| 20. | a | b | c | <u>d</u> | 43. | a | <u>b</u> | c | d | |
| 21. | a | <u>b</u> | c | d | 44. | a | b | <u>c</u> | d | |
| 22. | a | b | <u>c</u> | d | 45. | a | b | c | <u>d</u> | |
| 23. | a | b | c | <u>d</u> | 46. | a | b | c | <u>d</u> | |
| | | | | | 47. | a | <u>b</u> | c | d | |

REACTOR OPERATOR - ANSWER SHEET

Multiple Choice (Circle your choice)

NAME: _____

If you change your original answer, draw a single line through the error, enter the desired answer, and initial the change.

- | | |
|--------------------|----------------------------------------------|
| 48. <u>a</u> b c d | 71. <u>a</u> <u>b</u> c d (accept a or b) |
| 49. a b c <u>d</u> | 72. a b <u>c</u> d |
| 50. <u>a</u> b c d | 73. <u>a</u> b c d |
| 51. a b <u>c</u> d | 74. a <u>b</u> c d |
| 52. a b c <u>d</u> | 75. <u>a</u> b c <u>d</u> __ (accept a or d) |
| 53. <u>a</u> b c d | 76. <u>a</u> b c d |
| 54. a b c <u>d</u> | 77. a <u>b</u> c d |
| 55. a b <u>c</u> d | 78. a b <u>c</u> d |
| 56. <u>a</u> b c d | 79. <u>a</u> b c d |
| 57. a <u>b</u> c d | 80. <u>a</u> b c d |
| 58. a b c <u>d</u> | 81. a b <u>c</u> d |
| 59. a <u>b</u> c d | 82. a b c <u>d</u> |
| 60. a b c <u>d</u> | 83. a <u>b</u> c d |
| 61. a b c <u>d</u> | 84. a b c <u>d</u> |
| 62. a <u>b</u> c d | 85. <u>a</u> b c d |
| 63. <u>a</u> b c d | 86. a b <u>c</u> d |
| 64. a b c <u>d</u> | 87. a b <u>c</u> d |
| 65. a b <u>c</u> d | 88. a <u>b</u> c d |
| 66. a <u>b</u> c d | 89. <u>a</u> b c d |
| 67. a b c <u>d</u> | 90. a b c <u>d</u> |
| 68. <u>a</u> b c d | 91. a b <u>c</u> d |
| 69. a b c <u>d</u> | 92. a <u>b</u> c d |
| 70. a <u>b</u> c d | 93. a <u>b</u> c d |

REACTOR OPERATOR - ANSWER SHEET

Multiple Choice (Circle your choice)

NAME: _____

If you change your original answer, draw a single line through the error, enter the desired answer, and initial the change.

94. a b c d

95. a b c d

96. a b c d

97. a b c d

98. a b c d

99. a b c d

100. a b c d