The Div 1 ADS logic is powered from...

- A. Distribution panel 1DA1.
- B. RPS Bus 'A'.
- C. Inverter 1Y87.
- D. Power panel 15P61.

Depressing the CTMT-DRWL ISOL DIV 1(2) MAN INIT isolation pushbuttons on P870 will isolate the...

- A. Containment and Drywell Isolation Group 6 valves, only.
- B. Containment Cooling Group 7 valves, only.
- C. Containment and Drywell Isolation Group 6 valves and the RWCU Group 8 valves.
- D. Containment Cooling Group 7 valves and the RWCU Group 8 valves.

The plant is operating at rated power with **no** Instrument Air System problems.

Which of the following identifies the control room panel where operators can read INSTRUMENT AIR SUPPLY HEADER PRESSURE, <u>and</u> identifies what that indicator normally reads?

- A. Panel P854; normally reads approximately 135 psig
- B. Panel P854; normally reads approximately 110 psig
- C. Panel P870; normally reads approximately 135 psig
- D. Panel P870; normally reads approximately 110 psig

The plant is operating at rated power when a single SRV opens fully (due to a relief mode failure).

How does the Total Main Steam Flow indication at P680 respond <u>and</u> how do the Turbine Control Valves (TCVs) respond?

- A. Indicated Total Main Steam Flow <u>rises</u>. TCVs throttle in the <u>closed</u> direction.
- B. Indicated Total Main Steam Flow <u>rises</u>. TCVs throttle in the <u>open</u> direction.
- C. Indicated Total Main Steam Flow <u>lowers</u>. TCVs throttle in the <u>closed</u> direction.
- D. Indicated Total Main Steam Flow <u>lowers</u>. TCVs throttle in the <u>open</u> direction.

The plant is operating at 20% power when a main generator lockout causes a main turbine trip.

How do the Turbine Bypass Valves (TBVs) respond and why?

- A. All 3 remain closed because the Lo-Lo Set SRVs begin to control reactor pressure.
- B. Only the #1 valve opens to about 2% open because the Lo-Lo Set SRVs are predominantly controlling reactor pressure.
- C. Only the #1 and #2 valves throttle open because the reactor is producing only 20% steam.
- D. After the #1 valve is about 2% open then all 3 valves throttle open together to control reactor pressure because they are designed to operate in unison.

A spent fuel bundle has been dropped and damaged in the Fuel Handling Area, causing all 4 Fuel Handling Area Ventilation Exhaust radiation monitoring channels to peak at 3.8 mR/hr.

<u>Three minutes later</u>, which of the following describes the design function(s) of the system(s) that is/are ventilating the secondary containment?

- A. Maintaining <u>all</u> of secondary containment at a negative d/p relative to the outside atmosphere; no additional functions being performed.
- B. Maintaining <u>all</u> of secondary containment at a negative d/p relative to the outside atmosphere; is also limiting the thyroid dose at the site boundary to within 10 CFR guidelines.
- C. Maintaining <u>only</u> the Fuel Handling Area at a negative d/p relative to the outside atmosphere; no additional functions being performed.
- D. Maintaining <u>only</u> the Fuel Handling Area at a negative d/p relative to the outside atmosphere; is also limiting the Total Effective Dose Equivalent (TEDE) at the site boundary to within 10 CFR guidelines.

Tech Spec LCO 3.6.1.5, Primary Containment Air Temperature is Applicable in _____ and limits the temperature to no higher than _____.

- A. Modes 1, 2, and 3; $95^{\circ}F$
- B. Modes 1 and 2, only; 95F
- C. Modes 1, 2, and 3; 135°F
- D. Modes 1 and 2, only; 135°F

EP-3 (Containment Control) directs operators to emergency depressurize if drywell temperature cannot be maintained below 330 $^{\circ}$ F.

This specific temperature is the drywell design temperature; however, a temperature of 340 °F would challenge the ability of certain components within the drywell to operate as designed.

Per the EP Technical Bases, what are those components?

- A. SRVs
- B. MSIVs
- C. Drywell Purge Supply/Initial Vacuum Relief Valves
- D. Post-LOCA Vacuum Valves

Which of the following is designed to prevent water hammer in the LPCS system?

- A. LPCS Pump Discharge Restricting Orifice, E21-RO-D002
- B. LPCS Pump Discharge Check Valve, E21-F003
- C. LPCS Testable Check Valve, E21-F006
- D. LPCS Jockey Pump, E21-C002

Both SLC Pumps have been started from the control room.

How many total RWCU (G33) isolation valves have received a CLOSE signal?

- A. 2
- B. 3
- C. 4
- D. 5

The reactor is at rated pressure following a scram.

RCIC is maintaining reactor water level with an upward trend in level.

EP Attachment 3, Defeating all RCIC isolation and non-mechanical turbine trip interlocks, is installed.

As reactor water level rises to +53.5"...

- A. The RCIC Trip/Throttle Valve will remain open E51-F013, RCIC injection valve will close
- B. The RCIC Trip/Throttle Valve will close E51-F013, RCIC injection valve will close
- C. The RCIC Trip/Throttle Valve will remain open E51-F013, RCIC injection valve will remain open
- D. The RCIC Trip/Throttle Valve will close E51-F013, RCIC injection valve will remain open

The plant is operating at rated power when Plant Service Water is lost to the drywell chillers.

In this situation, drywell pressure would be controlled by...

- A. Placing the Containment Cooling System in the drywell purge mode of operation.
- B. Manually initiating SGTS.
- C. Aligning SSW to the drywell chillers.
- D. Manually initiating the Drywell Purge Subsystem of the Combustible Gas Control System.

A spent fuel handling accident has occurred within the spent fuel pool.

As a result:

- Fuel Handling Area Ventilation Exhaust radiation levels have risen to 3.0 mR/hr and stabilized there
- Fuel Pool Sweep Ventilation Exhaust radiation levels have risen to 35 mR/hr and stabilized there

Area Radiation levels have not yet begun to rise.

How should the operators interpret and mitigate these radiation levels with respect to EP-4, Auxiliary Building Control, actions?

- A. EP-4 entry is <u>not</u> yet required.
- B. EP-4 entry is required, after which operators should verify automatic actions have occurred and monitor the area radiation levels listed on Table 10 of the EP.
- C. EP-4 entry is required, after which operators should immediately enter EP-2 (RPV Control).
- D. EP-4 entry is required, and operators should monitor for either <u>one</u> of these two exhaust radiation levels reaching its max safe value before taking further EP-4 action.

Use the figure shown on the next sheet to answer this question.

Due to a grid instability problem, GGNS operators need to de-energize the 500 KV Franklin Line and ground that line.

Which of the following describes the order of operations to de-energize the Franklin Line and ground it?

- A. Open breakers J5240 and J5248. Open disconnect J5242. Open the Franklin Substation side of the Franklin Line. Close disconnect K5293.
- B. Open breakers J5240 and J5248.
 Open disconnect J5242.
 Close disconnect K5293.
 Open the Franklin Substation side of the Franklin Line.
- C. Open disconnect J5242.Open the Franklin Substation side of the Franklin Line. Close disconnect K5293.
- D. Open disconnect J5242. Close disconnect K5293.Open the Franklin Substation side of the Franklin Line.



Both Reactor Recirc Pumps are operating in slow speed.

The ram's head for Jet Pumps 3 and 4 is completely ejected.

TOTAL JP FLO recorder indication stabilizes at 40 Mlbm/hr.

Jet Pump 3 indicates 1.25 Mlbm/hr flow.

Jet Pump 4 indicates 1.0 Mlbm/hr flow.

How should actual Total Core Flow be determined?

- A. Use TOTAL JP FLO recorder indication, as is.
- B. Add 2.25 Mlbm/hr to TOTAL JP FLO recorder indication.
- C. Subtract 2.25 Mlbm/hr from TOTAL JP FLO recorder indication.
- D. Subtract 4.5 Mlbm/hr from TOTAL JP FLO recorder indication.

The plant is operating at rated power when a complete NSSSS isolation occurs (cause unknown).

The NSSSS isolation cannot be reset.

After entering EP-2 (RPV Control), operators have stabilized the plant near normal rated pressure and temperature.

It is now desired to cooldown the plant to MODE 4.

Per the Plant Shutdown IOI (03-1-01-3), what is the <u>preferred</u> method to be used for performing this cooldown?

- A. Turbine Bypass Valves with the Manual Bypass Jack.
- B. Turbine Bypass Valves with manually adjusting the IPC setpoint.
- C. Manually cycling SRVs.
- D. RCIC in CST-to-CST mode.

Use your provided references to answer this question.

Due to a fire operators have abandoned the control room and have manned the Remote Shutdown Panels.

Reactor pressure indicates 700 psig.

Wide Range reactor water level indicates +50".

What is <u>actual</u> reactor water level?

- A. +47.5"
- B. +42"
- C. +40"
- D. +32.5"

Which of the following is a potential consequence of exceeding an internal drywell pressure of 30 psig during a LOCA?

- A. A loss of the pressure suppression function of Primary Containment
- B. Inability to vent the Primary Containment using the 20" valves
- C. Failure of Primary Containment due to exceeding the Primary Containment maximum external-to-internal d/p limit
- D. Re-pressurization of the RPV from decay heat due to the inability of SRVs to remain open

The plant is operating at rated power.

The main generator is carrying 0 MVAR when there is a sustained 10KV spike in Grid voltage.

In order to maintain the main generator loading at 0 MVAR the operator must...

- A. depress the TVR LOWER pushbutton.
- B. depress the TVR RAISE pushbutton.
- C. depress the LOAD DEMAND RAISE pushbutton.
- D. depress the LOAD DEMAND LOWER pushbutton.

The plant is operating at rated power with the following:

- RCIC is operating for its normal quarterly pump surveillance
- RHR 'A' is operating in Suppression Pool Cooling to support the RCIC pump run

If for some reason the RCIC pump run is prolonged and suppression pool temperature continues to rise, at what temperature will operators have to enter EP-3, Containment Control?

A. 95°F

- B. 105°F
- C. 110°F
- D. 120°F

The plant is operating at rated power with CRD Pump'B' tagged out for repairs.

At time = 1400, CRD Pump 'A' trips (reason unknown).

At time = 1405, Accumulators are declared inoperable for seven withdrawn control rods.

Per the CRD Malfunctions ONEP, which of the following describes the **MINIMUM** condition that would <u>require</u> operators to <u>immediately</u> place the Mode Switch in SHUTDOWN?

With charging water header pressure still below 1520 psig...

- A. it is now time = 1420
- B. it is now time = 1420 <u>AND</u> two additional accumulators have now been declared inoperable for a withdrawn control rod.
- C. it is now time = 1425.
- D. it is now time = 1425 <u>AND</u> two additional accumulators have now been declared inoperable for a withdrawn control rod.

Auxiliary Building Ventilation (T41) and Fuel Handling Area Ventilation (T42) are in service when, per design, the Fuel Handling Area Ventilation Pressure Control Damper T42-F021 partially throttles <u>closed</u> (from its previous position).

What has this change in F021's position done within the secondary containment ventilation system, <u>and</u> what condition caused this F021 response?

- A. Less <u>outside</u> air flow is being supplied to the T42 <u>supply</u> fans. It re-positioned because the secondary containment d/p became <u>less</u> negative.
- B. Less <u>secondary containment</u> air flow is being supplied to the T42 <u>exhaust</u> fans. It re-positioned because the secondary containment d/p became <u>less</u> negative.
- C. Less <u>outside</u> air flow is being supplied to the T42 <u>supply</u> fans. It re-positioned because the secondary containment d/p became <u>more</u> negative.
- D. Less <u>secondary containment</u> air flow is being supplied to the T42 <u>exhaust</u> fans. It re-positioned because the secondary containment d/p became <u>more</u> negative.

A LOCA is in progress.

Only RHR Pump 'C' is available.

It is operating in LPCI mode to maintain reactor water level when SSW Pump 'B' trips and cannot be re-started.

Consider the following:

- 1. LPCI loop 'C' injection water temperature
- 2. RHR Pump 'C' seal temperature
- 3. RHR Pump 'C' Room temperature

Which of the above will be adversely impacted by the loss of SSW 'B'?

- A. 1 and 2. only
- B. 1 and 3, only
- C. 2 and 3, only
- D. 1, 2, and 3

The plant is in MODE 4 with RHR 'A' operating in Shutdown Cooling.

Operators use the Daily Operating Log (06-OP-1000-D-0001) to perform the Tech Spec LCO 3.4.10 surveillance requirement to "verify that one RHR Shutdown Cooling subsystem or one Reactor Recirc Pump is operating."

How often does the operator perform this verification?

- A. Every 2 hours
- B. Every 8 hours
- C. Every 12 hours
- D. Every 24 hours

The LPCS Pump Room cooler fan motor breaker has tripped (reason unknown) and will not reclose.

How will this impact the LPCS System?

- A. Pump will <u>not</u> start on Div 1 ECCS initiation signal; it must be remote-manually started at P601.
- B. Pump will <u>not</u> start at all (neither for a Div 1 ECCS initiation signal, nor for a remotemanual start at P601).
- C. Pump breaker at bus 15AA will attempt to close in response to either a Div 1 ECCS initiation signal or a remote-manual start at P601, but will immediately trip back open.
- D. Pump <u>will</u> start no matter what the signal (Div 1 ECCS initiation or remote-manual start at P601), but the LPCS system is now inoperable per Tech Specs.

Which of the following indicates that adequate core cooling has been **LOST**?

- A. RPV level at -200" on compensated fuel zone, with no injection
- B. RPV level at -211" on compensated fuel zone, with HPCS injecting at 6500 gpm
- C. RPV level at -155" on wide range, with only CRD injecting maximized for flow
- D. RPV level at -189" on compensated fuel zone, with only CRD injecting maximized for flow.

The plant is operating at 20% power when the following MSIVs go closed:

- B21-F022B, MSL B Inboard
- B21-F028B, MSL B Outboard
- B-21-F022D, MSL D Outboard

Without operator action, how will plant operation be impacted?

- A. Plant remains operating at 20% power; there is <u>no</u> RPS actuation.
- B. Plant remains operating at 20% power; there is a half-scram on RPS 'A'.
- C. Plant remains operating at 20% power; there is a half-scram on RPS 'B'.
- D. Plant automatically scrams (full scram).

A mid-cycle reactor startup is in progress with the reactor having just gone critical.

Operators have verified SRM/IRM overlap and are continuing to withdraw control rods while withdrawing SRMs as necessary to maintain SRM count rate between 10^2 and 10^5 cps.

The SRM 'E' detector becomes stuck (will not move).

Which of the following describes how SRM 'E' will respond if rod withdrawals continue, <u>and</u> describes how operators will mitigate the consequences of SRM 'E''s response in order to continue the reactor startup?

If rod withdrawals continue and SRM 'E' spikes up to 2×10^5 cps, it will...

- A. generate a rod block <u>and</u> an RPS 'A' half scram. Operators will have to manually bypass SRM 'E' then reset the half scram.
- B. generate a rod block <u>and</u> an RPS 'B' half scram. Operators will have to manually bypass SRM 'E' then reset the half scram.
- C. generate an RPS 'A' half-scram, only. Operators will have to manually bypass SRM 'E' then reset the half scram.
- D. generate a rod block, only. Operators will have to manually bypass SRM 'E'.

_____•

RCIC has been operating with suction from the CST to maintain reactor water level due to a small break LOCA.

The SUPP POOL LVL HI/LO annunciator at P870 alarms and seals-in (due to high level).

Control room operators should expect a P870 suppression pool level indication of <u>at least</u>

An automatic swap of RCIC suction from the CST to the suppression pool ______.

- A. 18.75 feet should be occurring
- B. 18.69 feet should be <u>not</u> be occurring
- C. 18.75 feet should <u>not</u> be occurring
- D. 18.69 feet should be occurring

The 4.16 KV breakers at Bus 13AD receive their control power from Bus...

A. 11DD.

- B. 11DE.
- C. 11DF.
- D. 11DG.

The plant is operating at rated power when the instrument air supply to the in-service CRD Flow Control Valve controller is lost (broken tubing).

What is the response of CRD cooling water header flow rate indication at P601?

- A. Immediately drops to approximately 0 gpm.
- B. Initially remains at the normal flow rate indication but eventually drops to approximately 5 gpm.
- C. Immediately rises to full upscale (approximately 70 gpm).
- D. Initially remains at the normal flow rate indication but eventually rises to full upscale (approximately 70 gpm).

Reactor power is 15%.

The first control rod in a group at position 48 is selected and the INSERT pushbutton is depressed and held depressed.

What is the response of the control rod to this RC&IS command?

The control rod will...

- A. insert only one notch.
- B. continuously insert until limited by the RWL.
- C. continuously insert until limited by the RPC.
- D. continuously insert until position 00 is reached.

A power ascension is in progress per IOI-2, "Power Operations".

Currently:

- Reactor power is steady at 40%
- Reactor water level is steady at +36" on the Feedwater Master Level Controller
- RFPT 'A' is operating
- RFPT 'B' is in 'Standby' per the SOI

A Feedwater Master Level Controller malfunction causes reactor water level to suddenly lower to +26" and stabilize there.

Power and pressure have stabilized after this transient.

Which of the following describes the stabilized reactor power response to this malfunction, and why?

- A. Reactor power is still 40% because the Recirc Pumps are in SLOW speed.
- B. Reactor power is still 40% because although only one RFP is operating, the other RFP has already been RESET.
- C. Reactor power is lower because both Recirc FCVs have run back to their MIN ED positions.
- D. Reactor power is lower because both Recirc FCVs have run back to approximately 15% to 20% open.

The plant is operating at rated power.

Which of the following conditions has a Tech Spec Required Action with a Completion Time of "Immediately"?

- A. Div 3 electrical power (<u>source</u>) subsystem is declared inoperable for reasons other than a battery charger problem.
- B. Div 2 DC electrical power <u>distribution</u> subsystem is declared inoperable.
- C. Div 2 AC electrical power <u>distribution</u> subsystem is declared inoperable
- D. Div 1 LSS is declared inoperable.

Following a scram from rated power, the following conditions exist simultaneously:

- LOCA
- ST-11 lockout (transformer internal fault)

Which Plant Air Compressor(s) is/are currently available (i.e., are running <u>or</u> can be started) for <u>continuous</u> operation?

- A. 'B' only
- B. 'B' and 'C' only
- C. 'C' only
- D. None
The plant is operating at rated power with the positions of Recirc FCVs 'A' and 'B' matched.

A flow controller malfunction causes FCV 'B' to partially close then stop.

After the transient, there is a steady 7% mismatch between the flows in the 'A' and 'B' Recirc loops.

How has this transient impacted the Recirc System, <u>and</u> what operator action is <u>required</u> to mitigate this impact?

A. The Recirc System is now inoperable per LCO 3.4.1, Recirculation Loops – Operating.

Either shutdown one recirc loop <u>or</u> repair the controller and re-match loop flows by raising the 'B' loop flow.

B. The TOTAL JP FLOW indication at P680 may be reading HIGHER than actual Total Core Flow.

Repair the controller and re-match loop flows by raising the 'B' loop flow.

C. The TOTAL JP FLOW indication at P680 may be reading LOWER than actual Total Core Flow.

Lower the 'A' loop flow to match the 'B' loop flow.

D. The Recirc System is now inoperable per LCO 3.4.1, Recirculation Loops – Operating.

Either shutdown one recirc loop <u>or</u> repair the controller and re-match loop flows by raising the 'B' loop flow, <u>or</u> re-match loop flows by lowering the 'A' loop flow.

The 'A' solenoids for the MSIVs are powered directly from...

- A. Inverter 1Y87.
- B. Bus 11DA.
- C. RPS Bus 'A'.
- D. Inverter 1Y96.

The plant is operating at rated power with power panel 12P12 (backup power to RFPT INFI-90) tagged out for repairs.

A <u>complete</u> loss of 120 VAC output from inverter _____ will cause a _____.

- A. 1Y87 downshift of <u>one</u> Reactor Recirc Pump
- B. 1Y87 downshift of <u>both</u> Reactor Recirc Pumps
- C. 1Y99 downshift of <u>one</u> Reactor Recirc Pump
- D. 1Y99 downshift of <u>both</u> Reactor Recirc Pumps

During a LOCA an operator is attempting to initiate the Inboard MSIV Leakage Control System (E32) using the E32 SOI.

Before placing the SYSTEM INITIATION handswitches to OPERATE, the operator is required to check that the INBD MSIV LCS PERMISSIVE annunciator is in alarm and sealed-in.

The annunciator is <u>not</u> in alarm.

The operator suspects the reason is that MSL pressures are too high.

Which control room panel has the Pressure Indicating Switches (PISs) where the operator can determine actual MSL pressures?

What is the MSL pressure setpoint for these PISs <u>below which</u> the annunciator will come into alarm?

- A. P601 20 psig
- B. P655 20 psig
- C. P601 2.6 psig
- D. P655 2.6 psig

The plant is in MODE 2 with a steady-state reactor power of 17%.

Per GGNS and/or Fleet procedures...

- A. the Shift Manager should now direct operators to take the Mode Switch to RUN.
- B. any on-shift SRO should direct an immediate power reduction.
- C. the ACRO should immediately reduce power using the pull sheet.
- D. the ACRO should immediately insert a manual scram.

The ACRO is about to perform a reactivity manipulation.

Per the Operations Philosophy procedure, which of the following <u>requires</u> a Reactivity Management SRO for direct oversight with <u>no</u> concurrent duties?

- A. In preparation for a control rod sequence exchange, a planned lowering of power from 100% to 78% using recirc, within a duration of 5 hours.
- B. While operating at rated power, inserting each fully withdrawn control one notch then back to position 48 to satisfy the Tech Spec Surveillance Requirement.
- C. Raising power from 96% (has been at 96% for several days) to 100% using recirc, within a duration of 15 minutes.
- D. In preparation for main turbine testing, lowering power from 100% to 85% using recirc, within a duration of 4 hours.

Which of the following **VIOLATES** a Tech Spec Safety Limit (SL)?

- A. Following a Group 1 (MSIV) isolation from rated power, the post-scram analysis reveals that reactor steam dome pressure peaked high at 1275 psig.
- B. Two Recirc Pumps are running in slow speed at MIN ED with reactor power at 30%.
- C. After a single control rod drift from rated power, core flow has just been reduced to 70 Mlbm/hr; the STA recognizes that MCPR is now reading 1.10 on CYCLOPS.
- D. Following a complete loss of feedwater from rated power, reactor water level drops to a low of -151" before turning and being recovered to its normal band.

Use your provided references to answer this question.

Consider the control schematic for TBCW Pump 'A'.

One of the 35 amp control power fuses is burned out.

How is electrical control of the pump impacted by this fuse failure?

- A. Can electrically start and stop the pump at the breaker, but not from the control room.
- B. Cannot electrically start the pump from any location, but all electrical stopping and automatic tripping are still functional.
- C. Can electrically stop the pump at the breaker or from the control room, but automatic tripping is disabled.
- D. Cannot electrically stop the pump from any location, and automatic tripping is disabled.

Per EN-RP-105, Radiological Work Permits (RWP), a radiation worker must participate in an RWP Pre-Job Brief prior to entering...

- A. the RHR 'C' Pump Room.
- B. the Aux Building Steam Tunnel.
- C. the LPCS Pump Room.
- D. the El. 119' Piping Penetration Room.

Compared to a typical sample, a coolant sample indicative of a fuel leak would contain higher than normal amounts of:

- A. Plutonium-239
- B. Chlorine-38
- C. Manganese-56
- D. Cobalt-60

<u>Ten days</u> after RF18, the plant is operating at rated power.

One of the two running CCW pumps trips and the Standby pump will not start.

With only one CCW pump running, operators enter the Loss of CCW ONEP for a "partial loss".

Per that ONEP, what is the **FIRST** system to which CCW is manually isolated, and what is the reason for <u>that</u> system being isolated?

- A. RWCU, to maximize the available CCW cooling to the Reactor Recirc Pumps.
- B. RWCU, to protect the RWCU filter demins from high temperatures.
- C. FPCC, to maximize the available CCW cooling to the Reactor Recirc Pumps.
- D. FPCC, to transition the FPCC heat exchangers over to SSW cooling as quickly as possible.

A small break LOCA has been in progress for 10 minutes and operators are implementing EP-2, RPV Control.

The ACRO is controlling reactor water level with the Condensate Booster Pumps (CDPs) in a band of -30" to +30" with the Startup Level Controller in AUTO.

The Rover is controlling reactor pressure with SRVs in a band of 450 psig to 600 psig.

Each time the Rover has reason to **open** one or more SRVs, the ACRO should **<u>initially</u>** expect to see indicated reactor water level _____ because _____.

- A. drop the open SRV(s) is/are removing water inventory from the RPV
- B. drop the sudden pressure drop is producing more boiling in the core
- C. rise the sudden pressure drop is producing more boiling in the core
- D. remain constant the Startup Level Controller is able to maintain level at setpoint

The plant is operating at rated power.

A singular failure results in losing electrical power **only** to the following valve:

• P53-F001, INSTRUMENT AIR SUPPLY HDR TO CTMT

Power to the valve cannot be immediately restored.

Which of the following describes the operational impact of this failure, and why?

- A. Operators will have to insert a manual scram either <u>in response to</u>, or to preclude, multiple control rod drifts.
- B. Operators will have to insert a manual scram <u>in response to</u> the MSIVs beginning to drift closed.
- C. Plant may remain at rated power because this valve is an MOV; it will remain as is.
- D. Plant may remain at rated power because this valve is a gagged open AOV; it will remain as is.

The plant is in MODE 4 with the following:

- RHR 'B' operating in Shutdown Cooling
- Both Reactor Recirc Pumps operating in SLOW speed
- One RWCU Pump operating

RHR Pump 'B' trips (motor thermal overload) and cannot be re-started.

Which of the following should operators use to monitor reactor coolant temperature?

- A. RWCU Regenerative HX Inlet temperature
- B. RWCU Non-Regenerative HX Inlet temperature
- C. RHR 'B' HX Inlet temperature
- D. Reactor Recirc Loop 'A' or 'B' Suction temperature

The Suppression Pool Temperature leg of EP-3 (Containment Control) directs us to insert a manual scram (by entry into EP-2) <u>before</u> pool temperature reaches 110 °F.

Per the EP Bases, what is one of the reasons for this operator action?

- A. Ensures the Tech Spec REQUIRED ACTION to insert a scram at 110°F is satisfied.
- B. Ensures the Tech Spec REQUIRED ACTION to emergency depressurize at 110°F is satisfied.
- C. Ensures that the Primary Containment cannot be over-pressurized under any condition.
- D. Ensures that Cold Shutdown Boron Weight can be injected before exceeding HCTL (should an ATWS occur).

The plant is operating at rated power with the following:

- FPCC is operating with <u>only</u> the 'A' pump operating
- FPCC 'A' Filter/Demin is in service
- Div 1 DG is carrying Bus 15AA <u>alone</u>

A spurious signal trips the Div 1 DG output breaker; that trip signal no longer exists.

Operators have now "restored" the Aux Building.

Operators have **not** performed any actions related to the FPCC system.

What is the status of the FPCC system <u>3 minutes</u> after the DG output breaker trip?

- A. One pump is running; the 'A' Filter/Demin is isolated.
- B. No pump is running; the 'A' Filter/Demin is isolated.
- C. One pump is running; the 'A' Filter/Demin is <u>not</u> isolated.
- D. No pump is running; the 'A' Filter/Demin is <u>not</u> isolated.

The crew is operating in the Alternate Level Control leg of EP-2, RPV Control.

Reactor pressure is 600 psig when operators open 8 ADS Valves.

Where in the main control room can operators use RED lights to verify the 8 ADS Valves have <u>actually</u> opened and are discharging steam?

- A. P601 vertical section, only
- B. P601 apron above each SRV handswitch, <u>only</u>
- C. P601 vertical section and backpanel P631
- D. P601 apron above each SRV handswitch and backpanel P631

A fire has started in Div 2 Diesel Generator Room.

The fire brigade is responding.

Per 10-S-03-2, Response To Fires, which of the following DG Room Outside Air Fans is/are required to be started?

- A. Div 1, only
- B. Div 3, only
- C. Div 1 and Div 3, only
- D. Div 2 and Div 3, only

Operators have just entered EP-2A, ATWS RPV Control.

The Power leg of that EP directs operators to immediately start both SLC pumps (rather than waiting for a Suppression Pool temperature rise) <u>if</u> indicated reactor power is greater than a certain value.

What is that specified value?

A. 3%

B. 4%

C. 5%

D. 6%

Consider both Recirc Loops (together).

A <u>total</u> of _____ Recirc Loop Flow transmitters input to the APRM System for flow-biased scram and rod block setpoints.

- A. 2
- **B**. 4
- C. 6
- D. 8

When RCIC is initiated from rated power...

- A. the RCIC Turbine Governor Valve is initially full open but is throttled when the E51-F095 (RCIC steam supply bypass valve) begins to open.
- B. the RCIC Turbine Governor Valve is initially full closed but is throttled when the E51-F095 (RCIC steam supply bypass valve) begins to open.
- C. the RCIC Turbine Governor Valve is initially full open but is throttled when the E51-F045 (RCIC steam supply valve) begins to open.
- D. the RCIC Turbine Governor Valve is initially full closed but is throttled when the E51-F045 (RCIC steam supply valve) begins to open.

The CRO has just paralleled the Div 2 DG with the grid for its monthly surveillance run.

The DG is carrying 350 KW, but with 2.5 MVARs rather than the required 0.25 MVARs.

The DG has been operating this way (350 KW with 2.5 MVARs) for 10 minutes before the CRO recognizes his error?

What is the consequence of operating the DG in this manner, <u>and</u> what operator action is required once the CRO recognizes his error?

- A. Generator Amps (1P75-R604B) are higher than expected Reduce the MVARs to the required 0.25
- B. Generator Amps (1P75-R604B) are higher than expected Immediately trip the DG
- C. Generator Amps (1P75-R604B) are lower than expected Reduce the MVARs to the required 0.25
- D. Generator Amps (1P75-R604B) are lower than expected Immediately trip the DG

The plant is operating at rated power with CCW Pumps 'A' and 'C' operating and 'B' in Standby.

The Rover is preparing to rotate pumps to a configuration of 'A' and 'B' operating and 'C' in Standby, per the SOI.

Considering <u>how</u> this evolution is performed, how should the CCW Pumps Discharge Pressure indication at P870 respond?

- A. Lower about 40 to 50 psig then return to the original indicated pressure.
- B. Lower about 10 to 15 psig then return to the original indicated pressure.
- C. Rise about 40 to 50 psig then return to the original indicated pressure.
- D. Rise about 10 to 15 psig then return to the original indicated pressure.

The plant scrams from rated power due to a loss of feedwater.

HPCS and RCIC automatically initiate and recover reactor water level.

Which of the following is included among the isolation valves whose position indication has <u>changed status</u> (from OPEN to CLOSED) on the Isolation Valve Status Board?

A. B21-F019, INBOARD MSL DRAINS OUTBOARD DRAIN VALVE

B. P52-F221A, SERVICE AIR SUPPLY HEADER #1 TO AUX BLDG

- C. G33-F235, RWCU BLOWDOWN TO MAIN CONDENSER
- D. P11-F066, RWST XFER TO CST

An ATWS and LOCA are in progress.

Which of the following conditions should cause operators to be <u>most</u> concerned about approaching the UNSAFE zone of HCTL?

- A. High suppression pool level with low suppression pool temperature
- B. Low suppression pool level with low reactor pressure
- C. Low suppression pool temperature with high reactor pressure
- D. Low suppression pool level with high reactor pressure

The plant is operating at rated power when the following occurs:

- 125VDC BTRY 1B3 SYS TROUBLE alarms and seals-in at P864
- CRO observes a 1B3 ground detector alarm on PDS
- Field operator confirms the alarm and reports the ground detector is reading 1.1 ma on the Positive side

Control room operators should immediately...

- A. suspend all half-scram and half-isolations.
- B. reduce core flow to 70 Mlbm/hr.
- C. insert a manual scram.
- D. declare HPCS inoperable.

Operators have opened 8 ADS SRVs.

Steam is being discharged into ______ of the suppression pool.

- A. only one quadrant
- B. only two quadrants
- C. only three quadrants
- D. all four quadrants

The following plant conditions exist:

- Reactor water level is -44"
- Drywell pressure is 1.20 psig
- SGTS Trains "A" and "B" are in AUTO

The hand switch for SGTS Train 'B' exhaust fan is then placed in the STOP position and <u>no</u> other SGTS-related controls are manipulated.

The resulting steady-state SGTS system <u>total</u> exhaust flow (i.e., considering <u>both</u> trains) is approximately:

- A. 1950 scfm
- B. 3875 scfm
- C. 7750 scfm
- D. 8600 scfm

Per the Precautions/Limitations of SOI 04-1-01-G41-1, Fuel Pool Cooling and Cleanup System, which of the following is done to maximize resin efficiency?

Maintain FPCC heat exchanger outlet temperature...

- A. above 70° F as read from G41-P001.
- B. above 70°F as read from 1H13-P642.
- C. below 140°F as read from G41-P001.
- D. below 140°F as read from 1H13-P642.

The plant is operating at 80% power.

As operators raise reactor power to 100%...

- A. The TCV's OPEN raising generator output Turbine Stm Press Actual (N11-R600) indication at P680 rises
- B. The TCV's CLOSE raising generator output Turbine Stm Press Actual (N11-R600) indication at P680 rises
- C. The TCV's OPEN raising generator output Turbine Stm Press Actual (N11-R600) indication at P680 lowers
- D. The TCV's CLOSE raising generator output Turbine Stm Press Actual (N11-R600) indication at P680 lowers

Operators are placing RPFT 'A' in Standby in preparation for placing it in service, using the Feedwater System SOI.

Per the SOI, the CRO has just tested the turbine trip function (using the MAN TRIP pushbutton) and is waiting for the turbine to coast down to 0 rpm.

RFPT 'A' speed has reached 0 rpm and, per the SOI, the CRO attempts to automatically engage the turning gear by depressing the 'A' TURN GEAR OPER RESET pushbutton.

What P680 light indications can the CRO use to OBSERVE that the turning gear <u>has</u> automatically engaged <u>and</u> its motor is running?

If the turning has failed to engage, how would a field operator attempt to manually engage it, per the SOI?

A. RED light above the OPER RESET pushbutton illuminates <u>and</u> the WHITE light above the RFPT 'A' TURN GEAR pushbutton extinguishes.

Attempt to engage the gear by depressing the OPER RESET pushbutton at local panel P175 (Turbine Bldg, elevation 133').

B. RED light above the OPER RESET pushbutton illuminates <u>and</u> the WHITE light above the RFPT 'A' TURN GEAR pushbutton extinguishes.

Attempt to engage the gear by pressing down on the Manual Engaging Lever at the RFPT.

C. GREEN light above the RFPT 'A' TURN GEAR pushbutton illuminates <u>and</u> the WHITE light above the RFPT 'A' TURN GEAR pushbutton illuminates.

Attempt to engage the gear by depressing the OPER RESET pushbutton at local panel P175 (Turbine Bldg, elevation 133').

D. GREEN light above the RFPT 'A' TURN GEAR pushbutton illuminates <u>and</u> the WHITE light above the RFPT 'A' TURN GEAR pushbutton illuminates.

Attempt to engage the gear by pressing down on the Manual Engaging Lever at the RFPT.

One of the thermocouples that sense RPV Bottom Head Drain temperature related to Recirc interlocks has become disconnected (open-circuited).

Which of the following describes how this failure will impact the associated Recirc Pump?

If the associated Recirc Pump...

- A. is operating in fast speed it will automatically downshift to slow speed.
- B. is operating in slow speed it will trip off.
- C. is not operating it cannot be started at any speed.
- D. is operating in slow speed and can be upshifted to fast speed.

A loss of the fire protection ______ will adversely impact the Control Room environment because ______.

A. Halon 1301 system

there would be no way to automatically extinguish a fire in the Control Room Standby Fresh Air Unit Filter Trains.

B. CARDOX system

there would be no way to automatically extinguish a fire in the Control Room under-floor cable raceways.

C. Deluge system

there would be no way to extinguish a fire in the Control Room Standby Fresh Air Unit Filter Trains.

D. Deluge system

there would be no way to extinguish a fire in the Control Room under-floor cable raceways.

The plant is operating at rated power.

Feeder breaker 52-15301 from bus 15AA to LCC 15BA3 trips (reason not yet known).

Per the operating procedures, what is the expected crew response?

- A. Immediately insert a manual scram.
- B. The SM/CRS may immediately direct an RO to attempt to reclose 52-15301 <u>one</u> time without delay.
- C. Only <u>after</u> receiving a report from the field that Electricians have completed an inspection of the breaker's primary contacts (even if cause of breaker trip has not yet been determined), the SM/CRS may direct an RO to attempt to reclose 52-15301.
- D. Only <u>after</u> receiving a report from the field that there is no obvious cause of the breaker trip or other obvious condition that would make breaker re-closure unsafe, the SM/CRS may direct an RO to attempt to reclose 52-15301.

DWL EQ DRN SMP DISCH/RECIRC VLV hand switches are in AUTO.

DWL EQ DRN SMP Temperature is 87°F.

DWL EQ DRN SMP Level is above the high setpoint.

An electrical fault has caused G17-F001A and G17-F001B, Equipment Drain Collector Tank Inlet Valves, to fail CLOSED causing the AUX BLD EQ DRN TRANS TNK High Level annunciator in the Radwaste Control Room.

Which of the following describes the affect this will have on the Drywell Equipment Drain Sump?

- A. Both Drywell Equipment Drain Sump Discharge Valves (P45-F006A/B) OPEN Both Drywell Equipment Drain Sump Recirc Valves (P45-F006C/D) CLOSE
- B. Both Drywell Equipment Drain Sump Discharge Valves (P45-F006A/B) CLOSE Both Drywell Equipment Drain Sump Recirc Valves (P45-F006C/D) OPEN
- C. Both Drywell Equipment Drain Sump Discharge Valves (P45-F006A/B) CLOSE Both Drywell Equipment Drain Sump Recirc Valves (P45-F006C/D) CLOSE
- D. <u>Only</u> one Drywell Equipment Drain Sump Discharge Valve is (P45-F006A/B) OPEN <u>Only</u> one Drywell Equipment Drain Sump Recirc Valve is (P45-F006C/D) OPEN

A reactor scram on low water level has occurred.

The following alarms are received:

- P680-8A1-C1, TURB BLDG E FLOOR DR SMP LVL HI
- P680-8A1-D1, TURB BLDG W FLOOR DR SMP LVL HI
- P680-2A-E2, RFP A VIBR HI
- P680-2A-E12, RFP B VIBR HI

What is the **NEXT** operator action to protect plant facilities, personnel, and equipment from water damage?

- A. Manually start the high capacity pumps for both Turbine Building Floor Drain Sumps.
- B. Ensure that all Turbine Building Floor Drain Sump pumps are running.
- C. Close B21-F065A and B21-F065B (FW INL SHUTOFF VLVs).
- D. Secure all Condensate Pumps.
During certain evolutions during refueling, IOI-5 requires radiation monitoring equipment to be set up to monitor the area within line-of-sight of the reactor core.

What is the purpose for this?

It is a contingency for...

- A. an inadvertent drain-down of the RPV.
- B. a control rod handling accident.
- C. a spent fuel handling accident.
- D. an inadvertent criticality.

Which of the following is a "less than or equal to 1-hour" Tech Spec Required Action?

- A. Operators determine that a Safety Limit has been violated.
- B. During a plant cooldown operators determine that the current cooldown rate is in excess of 100° F/hr.
- C. With the plant in MODE 2 and the reactor critical, operators determine that the Shutdown Margin is not within limits.
- D. With reactor power at 50% during a power ascension, operators determine that MCPR is not within the COLR limits.

Which of the following would, by itself, require an Emergency Procedure (EP) entry?

- A. With the plant at rated power, Drywell pressure reaches 1.0 psig.
- B. With the plant at rated power, Auxiliary Building D/P degrades to -0.20" w.c.
- C. During a RCIC pump run for post-maintenance testing, Suppression Pool level rises to 18.85 feet.
- D. During a plant power ascension, a pressure regulator malfunction causes reactor pressure to reach 1055.7 psig and stabilize there.

Which of the following is a <u>requirement</u> found in the Precautions/Limitations for either the Fire Protection Water SOI or Fire Protection CARDOX SOI?

- A. When having to enter a closed space that has been flooded with CO2, ensuring that at least two personnel are involved, one who enters the space with an oxygen mask and the other who remains immediately outside the space.
- B. Tagging the associated CARDOX system out-of-service for a CARDOX protected room where work is being performed on top of scaffolding in that room.
- C. When opening an outside fire hydrant isolation valve, ensuring that the valve is throttled to <u>nearly</u> fully open but <u>not</u> fully opened.
- D. Ensuring that a Diesel Driven Fire Pump remains running for at least 60 minutes any time it is started.

The plant is operating at rated power.

The CRS reviews the latest Jet Pump Operability Daily surveillance and discovers the following:

- Drive flows in each recirc loop versus their flow control valve positions differ by 9% from established patterns
- Total recirc loop drive flow versus total core flow differs by 12% from established patterns
- Jet Pump #7 indicated flow differs by 11% from established patterns

What is the status of the completed surveillance (SAT/UNSAT) and <u>why</u>, and what is the Tech Spec Required Action, if any?

- A. The surveillance is SAT because two of the three stated criteria are within their limits; there is <u>no</u> Tech Spec Required Action.
- B. The surveillance is SAT because all three of the stated criteria are within their limits; there is <u>no</u> Tech Spec Required Action.
- C. The surveillance is UNSAT because only one of the three stated criteria is within its limit; immediately enter Tech Spec LCO 3.0.3.
- D. The surveillance is UNSAT because only one of the three stated criteria is within its limit; be in MODE 3 within 12 hours.

It is Day 8 of a refueling outage after a continuous run since the previous refueling outage.

CORE ALTERATIONS have just begun with RHR 'A' operating in Shutdown Cooling (SDC).

An OPDRV causes an unplanned drain-down of the reactor cavity.

Operators isolate the source of the drain-down and cavity water level stabilizes at 4 feet above the RPV flange.

Until the reactor cavity water level has been restored to its pre-drain down level, what should be the CRS's <u>first</u> priority regarding the Tech Spec requirements for decay heat removal?

- A. Verify that RHR 'B' is OPERABLE for SDC, <u>or</u> verify that the ADHR system is OPERABLE.
- B. Verify that RHR 'B' is OPERABLE for SDC, or verify that RWCU is available for decay heat removal.
- C. Verify that RHR 'A' is still OPERABLE for SDC, or verify that RWCU is available for decay heat removal.
- D. Verify that RHR 'A' is still OPERABLE for SDC, or verify that the ADHR system is OPERABLE.

The plant is operating at rated power.

Prolonged RCIC testing has forced the CRS to enter Tech Spec LCO 3.6.2.1, Suppression Pool Average Temperature.

What is the Tech Spec Basis for the COMPLETION TIME of the Required Action upon entering this LCO at this <u>specific</u> suppression pool temperature?

- A. Allows adequate time to cool down the suppression pool to the point where LCO 3.6.2.1 can be exited.
- B. Ensures the suppression pool's heat absorption capability is preserved without having to shut down the plant.
- C. Ensures the reactor is shutdown before possibly heating up the suppression pool to beyond its design limits by the absorption of decay and sensible heat.
- D. Allows adequate time to bring the plant down from full power conditions to the point where LCO 3.6.2.1 is no longer Applicable, doing so without challenging plant systems.

That plant is operating at rated power when a Secondary Containment equipment hatch begins to leak.

As a result, Auxiliary Building D/P begins to slowly degrade.

Currently, the D/P is -0.20" w.c. and slowly degrading.

What is the proper interpretation of this <u>current</u> condition regarding Secondary Containment OPERABILITY?

- A. The Secondary Containment is still OPERABLE (per LCO 3.6.4.1, Secondary Containment) because operators have not yet determined whether or not SGTS is able to restore the Aux Bldg to its required D/P.
- B. The Secondary Containment is still OPERABLE (per LCO 3.6.4.1) because an EP-4 (Aux Bldg Control) is not yet required.
- C. The Secondary Containment is INOPERABLE (per LCO 3.6.4.1) because Aux Bldg Ventilation (T41) is not OPERABLE.
- D. The Secondary Containment is INOPERABLE (per LCO 3.6.4.1) because the required D/P is not being maintained.

Use your provided references to answer this question.

A fire is in progress in fire zone 1A221.

That zone's fire suppression system has automatically gone into service.

Which of the following describes how the fire suppression system is impacting plant equipment?

- A. The LPCI 'B' Injection Valve (E12-F042B) drive motor is being wetted down by fire water.
- B. The SSW Inlet Valve To DG12 Water Cooler (P41-F018B) drive motor is immersed in CO2.
- C. Cabling for Battery Charger 1B5 is immersed in CO2.
- D. Cabling for DG12 Outside Air Fan (X77-C001B) is being wetted down by fire water.

Operators have just entered EP-2A, ATWS RPV Control.

Upon initial entry into the Level Leg of EP-2A, the following conditions exist:

- Reactor power is 12%
- MSIVs are open
- Suppression pool temperature is 98°F
- Drywell pressure is 1.3 psig and slowly rising
- RPV water level is +5" and slowly lowering
- RPV pressure is 850 psig and slowly lowering

Operators have just terminated RPV injection at P680 for the first time; RCIC is injecting and CRD has been maximized for flow.

With P680 injection still terminated, RPV water level is now -80" and continuing to lower.

Neither RFPT will re-start (cause unknown).

The CRS should NEXT direct operators to lower reactor pressure to a band of 450 psig to 600 psig using ...

- A. SRVs then re-inject to the RPV using Condensate to maintain a level band of -70" to -130".
- B. Bypass Valves then re-inject to the RPV using Condensate to maintain a level band of -70" to -130".
- C. SRVs then re-inject to the RPV using Condensate to maintain a level band of -70" to -191".
- D. Bypass Valves then re-inject to the RPV using Condensate to maintain a level band of -70" to -191".

A LOCA is in progress.

Currently:

- 8 ADS Valves are open
- HPCS is injecting at 4,500 gpm
- LPCS is injecting at 4,000 gpm
- All other available systems have been maximized for injection
- RPV water level is -205" and slowly lowering
- CTMT pressure is 20 psig and slowly rising

The CRS should...

- A. exit the EPs and enter the SAPs.
- B. enter Steam Cooling.
- C. vent the CTMT using the large vent valves.
- D. remain in the EPs until RPV level reaches -217", then exit the EPs and enter the SAPs

Which of the following is considered a temporary modification <u>required</u> to be controlled by EN-DC-136, Temporary Modifications?

- A. Following an engineering evaluation and approval, a seismic class 1 support is temporarily removed to accommodate a maintenance activity.
- B. Due to outage activities, a temporary feed is connected to MCC 11B12 to supply its loads.
- C. Temporary scaffolding is installed over a reactor feedwater pump.
- D. A circuit board is temporarily removed to support an electrical test.

Per EN-RP-101, Access Control For Radiologically Controlled Areas, who is <u>required</u> to give the <u>final</u> approval for personnel to enter a Locked High Radiation Area (LHRA) with general area dose rates greater than 2.5 Rem/hr in the actual work area?

- A. Plant Operations General Manager
- B. Radiation Protection Supervisor
- C. Radiation Protection Manager
- D. Operations Manager

A support system has been declared inoperable and its Tech Spec LCO has been entered.

CRS/SM declare the <u>supported</u> system inoperable and enter that LCO, but determine there is <u>no</u> need to implement the Conditions and Required Actions for that <u>supported</u> system's LCO.

A Safety Function Determination must however be performed per Tech Spec 5.5.10.

Which Tech Spec LCO provides for the allowances described above?

- A. LCO 3.0.1
- B. LCO 3.0.3
- C. LCO 3.0.5
- D. LCO 3.0.6

Use your provided references to answer this question.

The plant is in MODE 5 with refueling activities in progress.

Highest peak reading of Area Radiation Monitors (ARMs) over the past 24 hours:

- CTMT Fuel Handling Area (D21-K626 thru K629) 4.5 mR/hr
- CTMT 209 Airlock (D21-K630) 1.5 mR/hr

Which of the following situations, <u>alone</u>, would require entry into the Emergency Plan?

- A. CTMT 209 Airlock alarm (P844-1A-A1) with ARM D21-K630 reading below the annunciator alarm setpoint.
- B. An unplanned rise of the reading on ARM D21-K626 to a level of 900 mR/hr; the reading has been validated.
- C. Polar crane drops a piece of equipment on a spent fuel bundle in the transfer canal; a valid CTMT Fuel Handling Area alarm is received.
- D. An OPDRV results in an uncontrolled lowering of Upper CTMT Pool levels; the level drop is halted before fuel is uncovered or there is any rise in ARM readings.

The plant is operating at rated power.

A partial loss drywell cooling causes drywell pressure to rise to 0.7 psig and stabilize there.

CTMT pressure is unchanged.

What is the Basis for the Tech Spec LCO limit associated with this specific condition?

- A. Helps protect against the horizontal vents clearing during normal plant operating conditions.
- B. Helps protect against weir wall overflow should an inadvertent SPMU dump occur during normal operating conditions.
- C. Helps protect against an unacceptable delay in the clearing of the top horizontal vent (resulting in an unacceptably high peak drywell pressure) during a LOCA.
- D. Helps ensure that suppression pool swell has a minimal impact on pool load limits during a LOCA.

Use your provided references to answer this question.

The plant is operating at rated power when a loss of <u>all</u> offsite power occurs.

When the plant scrammed, the following occurred:

- An unexplained loss of 11DA bus
- 16AB is locked out due to overcurrent (bus damage occurred)
- LOCA in the drywell

20 minutes after the scram:

- An operator reports that 11DB bus voltage is 104 VDC
- A fire is reported in the Division 3 battery room (11DC is de-energized)
- Security determines and reports that the loss of offsite power was the result of HOSTILE ACTION in the Switchyard.

40 minutes after the scram:

- The fire in Division 3 battery room continues to burn
- Drywell pressure has reached 1.40 psig and is slowly trending upward
- Reactor water level is -120" trending down

The CRS/SM should make an EAL declaration at the _____ level.

- A. Unusual Event
- B. Alert
- C. Site Area Emergency
- D. General Emergency

A small-break LOCA and an ATWS are in progress.

Currently:

- Reactor power is 0%
- SLC is injecting with SLC tank level at 950 gallons and lowering
- CRD flow is maximized
- RCIC is injecting
- Operators are attempting to re-inject with Condensate/Feedwater but two Condensate Booster Pumps keep tripping off (reason unknown)
- RPV water level is -180" and stable
- Suppression pool level is 18.5 feet and slowly rising
- CTMT pressure is 3.0 psig and slowly rising
- CTMT temperature is 185°F and slowly rising
- Drywell temperature is 215°F and slowly rising
- CTMT pressure is in the Safe to Initiate zone of the CSIPL (Fig 3)

The CRS should direct operators to...

(For each answer choice, assume that action has not yet been performed.)

- A. Emergency Depressurize based on RPV water level.
- B. Emergency Depressurize based on PSP.
- C. Initiate CTMT Sprays based on Drywell temperature.
- D. Initiate CTMT Sprays based on CTMT temperature.

The plant is operating at rated power when the following occurs:

- An <u>actual</u> under-voltage condition occurs on the output of RPS 'B' MG Set
- <u>Both</u> of the under-voltage relays that should have sensed the condition failed to do so
- As a result, RPS 'B' MG Set is still powering RPS 'B' Bus
- All loads normally energized from RPS 'B' Bus are still energized

Which of the following describes the potential impact of sustained operation with this undervoltage condition (per the Tech Spec Bases), <u>and</u> describes the Tech Spec required action for the failure of the under-voltage relays?

- A. Premature dropout of scram pilot valve solenoids. Remove RPS 'B' MG Set from service within 1 hour.
- B. Loss of scram pilot valve function due to solenoid chatter. Remove RPS 'B' MG Set from service within 72 hours.
- C. Premature dropout of scram pilot valve solenoids. Remove RPS 'B' MG Set from service within 72 hours.
- D. Loss of scram pilot valve function due to solenoid chatter. Remove RPS 'B' MG Set from service within 1 hour.

The plant is operating at rated power when the latest Quarterly ADS Channel Functional Test indicates the following:

- The ADS Trip System 'A' Initiation Timer is timing out at 118 seconds
- The ADS Trip System 'B' Initiation Timer is timing out at 104 seconds

The surveillance Acceptance Criteria for these timers is "<105 seconds".

A Condition Report (CR) has been initiated to document this condition.

What Operability Code should be assigned to the *initial* screening of this CR in PCRS?

- A. OPERABLE
- B. INOPERABLE
- C. EQUIPMENT FUNCTIONAL
- D. EQUIPMENT NON-FUNCTIONAL

Use your provided references to answer this question.

The plant is operating at rated power.

The output from the inverter section of 1Y97 has failed with the following:

- The Static Switch has failed to transfer (automatically and manually)
- The Manual Bypass Switch will not move from its NORMAL OPERATION position

As a result, essential Central Alarm Station (CAS) and Secondary Alarm Station (SAS) equipment has been lost.

Per EN-WM-100, Work Request Generation, Screening and Classification, what PRIORITY should be assigned to the Work Request for this failure?

- A. Priority 1
- B. Priority 2
- C. Priority 3
- D. Priority 4

The plant is operating at rated power when RCIC automatically initiates on an <u>invalid</u> Level 2 initiation signal (reason unknown).

Operators trip and isolate RCIC.

Operators have verified HPCS is OPERABLE.

How long does the CRS have before he must declare RCIC inoperable, <u>and</u> how long does he have to restore RCIC to an OPERABLE status?

- A. Immediately declare the system inoperable7 days to restore the system to an OPERABLE status
- B. Immediately declare the system inoperable14 days to restore the system to an OPERABLE status
- C. 1 hour to declare the system inoperable7 days to restore the system to an OPERABLE status
- D. 1 hour to declare the system inoperable14 days to restore the system to an OPERABLE status

The plant is operating at rated power.

The CRS enters the Loss of PSW ONEP due to a partial loss of PSW.

When is the CRS expected to enter the Loss of CCW ONEP and implement it <u>concurrently</u> with the Loss of PSW ONEP?

(Assume each answer choice is due to a PSW system problem.)

- A. Recirc Pump temperatures are rising.
- B. CCW heat exchangers have been aligned to SSW.
- C. EHC oil temperature is rising.
- D. CCW system temperature cannot be maintained below 100°F

Which of the following <u>valid</u> annunciators, <u>by itself</u>, would cause the CRS to enter the Control Rod/Drive Malfunctions ONEP?

- A. HCU TROUBLE
- B. CONT ROD WITHDRAWAL BLOCK
- C. CONT ROD OVERTRAVEL
- D. SRM PERIOD

Which of the following is a Tech Spec requirement for **MINIMUM** shift manning?

- A. One RO and one SRO present in the control room when fuel is in the reactor.
- B. Two non-licensed operators present on the site when fuel is in reactor.
- C. One RO and one SRO present in the control room during MODE 1, 2, or 3.
- D. Two ROs and one SRO in the control room during MODE 1, 2, or 3.

Use your provided references to answer this question.

The plant is operating at 80% power.

The latest Turbine Stop and Control Valve Operability Test (06-OP-1N32-V-0001) has just failed.

Consequently, the following valves must be declared inoperable:

- HP Stop Valve F026B
- LP1 Control Valve F030C
- LP1 Stop Valve F030D

Which of the following is a required action?

- A. Immediately enter LCO 3.0.3.
- B. Isolate the main turbine from its steam supply within 6 hours.
- C. Develop and implement compensatory actions for the inoperable valves.
- D. Verify that a safety function is not compromised by the inoperable valves.

The plant is operating at rated power.

Per TRM 6.4.1, Chemistry, what is the upper limit for Conductivity?

- A. 0.5 µmhos/cm
- B. 1.0 µmhos/cm
- C. 2.0 µmhos/cm
- D. 5.0 µmhos/cm

The plant is operating at rated power.

A plant event occurs.

The event meets the threshold for an ALERT level of the EALs but is rapidly concluded (i.e., event no longer exists) before the CRS/SM actually classify the event.

Per 10-S-01-1, Activation of the Emergency Plan, which of the following describes the classification and notification requirements?

- A. Classify the event and make <u>all</u> of the normal notifications to offsite agencies, including the NRC.
- B. Classify the event but notify <u>only</u> the NRC.
- C. Do <u>not</u> classify the event and notify <u>only</u> the NRC.
- D. Do <u>not</u> classify the event and do <u>not</u> make any notifications to offsite agencies, including the NRC.

Use your provided references to answer this question.

It is day 30 of RF18.

CORE ALTERATIONS are in progress with fuel being moved to the Spent Fuel Pool.

Regarding the status of the "decay heat removal capability" Safety Function:

- RHR 'A' Shutdown Cooling is currently OPERABLE and is operating in that mode
- RHR 'B' is currently <u>Available</u> for Shutdown Cooling but is <u>not</u> OPERABLE for the Shutdown Cooling mode
- ADHR is currently <u>Available</u> for decay heat removal is <u>not</u> OPERABLE
- There are <u>no</u> other decay heat removal methods (including natural circulation) currently available

There are <u>no</u> unusually complex evolutions in progress, or any plant conditions which themselves represent an unusually high risk.

Then, RHR Pump 'A' trips on a motor overload and cannot be restarted.

What is the risk level color <u>now</u> assigned to the "decay heat removal capability" Safety Function?

- A. Green
- B. Yellow
- C. Orange
- D. Red