

Question # 001  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000007 2.1.7

Question:

An automatic reactor trip has occurred. Approximately two minutes after the trip the following indications are present in the Control Room:

- RCS pressure is 1675 psig and stable
- Subcooling Margin is 30°F in both loops
- Pressurizer level is at 25 inches
- OTSG steam pressure is 870 psig in both steam generators
- RB pressure is at 0.1 psig
- T hot is 539°F
- T cold is 532°F
- A Second Makeup pump has been started and MU-V-217 is open
- Main Feedwater flow is 0.0 x E6 lbm/hr to each OTSG
- Both OTSG levels are approximately 90 inches on the startup range and stable

Based on the above conditions, IDENTIFY which one of the following actions MUST be taken.

- a. Control Main Feedwater flow to the OTSGs
- b. Manually initiate HPI
- c. Secure Letdown
- d. NO actions are required at this time

Answer:

d.

Reference:

Bank

Higher

K/A Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.

Question # 002  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000008A201

Question:

A plant startup is in progress: as reactor power was being increased from 10% Rated Thermal Power (RTP) to 15% RTP, Reactor Coolant System (RCS) pressure increased to 2225 psig and then decreased. The following indications are also observed:

- RCV-14 green indicator light is on
- RCV-13, Pressurizer Spray Block Valve, red indicator light is on
- RCV-10, PORV, green indicator light is on
- RCV-11, PORV Block Valve, red indicator light is on
- RCS Tave is fluctuating around 580°F
- RCS pressure is slowly decreasing
- Subcooling margin is 35°F and slowly decreasing
- Makeup flow is steady

Which ONE of the following describes the cause of the indications and the correct operator response?

- a. Pressure is decreasing due to an overcooling event; all groups of Pressurizer Heaters should be turned on.
- b. Pressure is decreasing due to an overcooling event; the PORV and Spray Block Valves should be closed.
- c. Pressure is decreasing due to RCV-10 or RCV-14 being open; all groups of Pressurizer Heaters should be turned on.
- d. Pressure is decreasing due to RCV-10 or RCV-14 being open; the PORV and Spray Block Valves should be closed.

Answer:

d.

Reference:

Make this Davis Besse

Bank

Higher

K/A Ability to determine and interpret the following as they apply to the Pressurizer Vapor Space Accident: RCS pressure and temperature indicators and alarms

Question # 003  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000009K203

Question:

Given the following conditions:

- The reactor has tripped from 100% power.
- The Subcooling Margin is 0°F.
- RCPs are off.
- No HPI is available.
- RCS pressure is 785 psig.
- $T_{\text{hot}}$  is 518°F.
- $T_{\text{cold}}$  is 516°F.
- OTSG pressure is 770 psig.

Select the mode of RCS cooling occurring for the present conditions.

- a. Free convection
- b. Forced convection
- c. Single phase Natural Circulation
- d. Boiler-condenser Natural Circulation

Answer:

d.

Reference:

302 bank

Bank

Higher

K/A Knowledge of the interrelations between the small break LOCA and the following: S/Gs

Question # 004  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000011K303

Question:

The following plant conditions exist:

- A LOCA has led to a loss of subcooling margin.
- SFRCS has tripped on low steam generator pressure due to HPI cooling.

The basis for DB-OP-02000, RPS, SFAS, or SFRCS Trip, or SG Tube Tupture, direction to restore AFW to the isolated steam generator is to. . .

- a. minimize tube to shell differential temperature of the isolated steam generator.
- b. eliminate the need to route to the Lack of Heat Transfer section of DB-OP-02000.
- c. allow makeup and HPI to be throttled sooner than if only one steam generator was available.
- d. maintain the capability of both steam generators for heat removal.

Answer:

d.

Reference:

Bank

Fundamental

K/A Knowledge of the reasons for the following responses as they apply to the Large Break LOCA: Starting auxiliary feed pumps and flow, ED/G, and service water pumps

Question # 005  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000015/17K207

Question:

The plant was operating at 100% RTP when RCP 1-1 tripped. Which of the following seal injection flow rates is the MINIMUM required to ensure that Reactor Coolant Pump 1-1 seals will stage properly and prevent reactor coolant from leaking out of the pump seals into containment atmosphere?

- a. 1 gpm
- b. 3 gpm
- c. 6 gpm
- d. 9 gpm

Answer:

b.

Reference:

Bank

Fundamental

K/A Knowledge of the interrelations between the Reactor Coolant Pump Malfunctions (Loss of RC Flow) and the following: RCP seals

Question # 006  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000022K103

Question:

The plant has been operating at 100% RTP for 7 months. The following conditions were noted:

Annunciator alarms:

- 2-2-B, MU TK LVL HI
- 4-2-E, PZR LVL LO

Control Room Indications:

- MU Pump #1 Red light ON
- MU Pump #1 amps 55 and STEADY
- MU 32, PZR LEVEL CONTROL, indicates 100% demand
- FI MU34, TRAIN 2 MAKEUP FLOW indicates 15 gpm
- FI 6435, TRAIN 1 MAKEUP FLOW indicates 0 gpm

Which one of the following conditions would cause these symptoms to be observed?

- a. Isolation of letdown, MU2B CLOSED
- b. MU Pump #1 Locked Rotor
- c. Failure CLOSED of PZR LEVEL CONTROL, MU32
- d. Small RCS leak DOWNSTREAM of MU32

Answer:

c.

Reference:

Bank

Higher

K/A Knowledge of the operational implications of the following concepts as they apply to Loss of Reactor Coolant Makeup: Relationship between charging flow and PZR level

Question # 007  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000025K101

Question:

The plant was in Mode 5 with DHR Train 1 in service. DHR was aligned as follows:

- DH 13B (DH Cooler 1 Bypass Flow Control) demand is 40%.
- DH 14B (DH Cooler 1 Outlet Flow Control) demand is 30%.

The following annunciators energized:

- ICS INPUT MISMATCH
- ICS INPUT TRANSFER

While checking the control boards, the RO discovered that the NNI-Y AC power indicating light was NOT LIT.

Which ONE of the following describes the effect on DH System flow control?

- a. Flow will NOT change because NEITHER valve should be affected.
- b. Flow will INCREASE because BOTH valves FAIL to the 50% demand position.
- c. Flow will DECREASE because BOTH valves FAIL closed.
- d. Flow will NOT change because BOTH valves FAIL as is.

Answer:

b.

Reference:

Bank

Higher

K/A Knowledge of the operational implications of the following concepts as they apply to Loss of Residual Heat Removal System: Loss of RHRS during all modes of operation.

Question # 008  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000026K304

Question:

The plant was operating at 100% RTP with all systems in a normal full power lineup. While scanning panels, the secondary RO reported that CCW system flow was zero. CCW Pump 2 breaker indicated closed with **Both** lights out on the CCW Pump 1 breaker. CCW Pump 3 was not aligned for service. What effects will the described condition have on the CCW Nonessential Headers Isolation Valves (CCW 5095, CC 5097, CC 2645, CC 5096, CC 5098, and CC 2649)?

- a. The valves will cycle (open and closed).
- b. The valves will remain in their current position.
- c. The valves will open, or if open, will remain open.
- d. The valves will close, or if closed, will remain closed.

Answer:

a.

Reference:

New

Higher

K/A Knowledge of the reasons for the following responses as they apply to the Loss of Component Cooling Water: Effect on the CCW flow header of a loss of CCW

Question # 009  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000029A108

Question:

The plant was operating at 75% RTP when pressurizer level began decreasing. The primary operator reported to the control room that he had indications of a 200 gpm leak in the 'A' OTSG, and that pressurizer level had decreased to 80 inches.

- Annunciator 4-2-E, PZR LVL LO, is in alarm.

Choose the REQUIRED operator action.

- a. Restore PZR level by opening the BWST suction valves, starting the second make-up pump, and opening additional HPI valves.
- b. Close the Block Orifice Bypass valve and adjust the Pressurizer Level Make-up valve (MU-31) setpoint to maintain PZR level.
- c. Restore PZR level by opening the BWST suction valves to supply make-up to the Make-up Tank and Pressurizer Level Control valve (MU-31).
- d. Ensure Letdown Cooler Outlet Isolation (MU-2A) is closed and trip the reactor by manually depressing the Reactor Trip pushbutton.

Answer:

a.

Reference:

New

Higher

K/A Ability to operate and monitor the following as they apply to an ATWS: Reactor trip switch pushbutton

Question # 010  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000038EA2.16

Question:

Given the following conditions:

- A SGTR has occurred on SG A.
- The reactor has been shutdown.
- RCS T<sub>H</sub> temperatures are 550°F.
- RCPs are off and are not available.
- An RCS cooldown and depressurization is in progress per DB-OP-02000, Section 8.0, Steam Generator Tube Rupture.
- The TBVs are being used for the RCS cooldown, and the PZR Vent Line Method is being used for the RCS depressurization.
- SG A level is 195 inches and rising.

(1) What action is required at this time?

(2) What action will be required if an SFRCS High Level Trip on SG A occurs?

- a. (1) Increase the steaming rate on SG A to provide a maximum RCS cooldown rate of 235°F.  
(2) Continue cooldown on SG B using the TBVs.
- b. (1) Increase the steaming rate on both SGs to provide a maximum RCS cooldown rate of 235°F.  
(2) Continue cooldown on SG B using the TBVs.
- c. (1) Increase the steaming rate on SG A to provide a maximum RCS cooldown rate of 235°F.  
(2) Continue cooldown on SG B using its AVV.
- d. (1) Increase the steaming rate on both SGs to provide a maximum RCS cooldown rate of 235°F.  
(2) Continue cooldown on SG B using its AVV.

Answer:

c.

REFERENCE

DB-OP-02000, Revision 20 - Steps 8.34 and 8.35

New

Higher

K/A Ability to determine or interpret the following as they apply to a SGTR: Actions to be taken if S/G goes solid and water enters steam line.

Question # 011  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000040 2.2.37

Question:

Given the following conditions:

- A reactor trip from 100% power occurred.
- The crew entered DB-OP-02000, "RPS, SFAS, SFRCS Trip, or SG Tube Rupture."
- The crew has transitioned to Section 7.0, "Overcooling," of DB-OP-02000.
- SG pressure is lowering in SG 1.
- RCS Loop 1 Tave is 440°F.
- SG 1 Shell temperature is 520°F as indicated on SPDS.

(1) Is the SG Tube to Shell differential temperature within limits at this time?

(2) What is the basis for the SG Tube to Shell differential temperature limits?

- a. (1) Yes  
(2) Limits the stresses imposed on the SG tubes minimizing the potential for a SGTR.
- b. (1) Yes  
(2) Limits Pressurized Thermal Shock to the SG shell when feedwater is initiated to a dry SG.
- c. (1) No  
(2) Limits the stresses imposed on the SG tubes minimizing the potential for a SGTR.
- d. (1) No  
(2) Limits Pressurized Thermal Shock to the SG shell when feedwater is initiated to a dry SG.

Answer:

a.

Reference:

DB-OP-02000, Step 7.37 Bases

New

Higher

K/A Ability to determine operability and/or availability of safety related equipment.

Question # 012  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000054 2.3.14

Question:

The plant was in a power ascension at 65% RTP when fuel assembly leakage was detected. It is desired to continue to 100% RTP. If letdown demineralizer 2 is in service, what actions should be taken and why?

- a. Lower letdown flow to minimize damage to MU6.
- b. Lower letdown flow to remove additional iodine.
- c. Raise letdown flow to minimize the iodine spike.
- d. Raise letdown flow to minimize damage to MU5.

Answer:

a.

Reference:

76886; OPS-GOP-135-01K: Why raise letdown with fuel damage?

BANK

FUNDAMENTAL

K/A Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities.

Question # 013  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000055K102

Question:

Given the following conditions:

- A reactor trip occurred from 100% power.
- 4160V Bus C1 and 4160V Bus D1 have lost power and cannot be re-energized.

(1) What is a required action at this time?

(2) What is an indication of natural circulation cooling?

- a. (1) Initiate an RCS cooldown at a maximum rate of 50°F/hour.  
(2) RCS T-cold and SG T-sat are 30°F apart.
- b. (1) Maintain HOT STANDBY condition.  
(2) RCS T-cold and SG T-sat are 30°F apart.
- c. (1) Initiate an RCS cooldown at a maximum rate of 50°F/hour.  
(2) RCS T-hot and RCS T-cold are 40°F apart.
- d. (1) Maintain HOT STANDBY condition.  
(2) RCS T-hot and RCS T-cold are 40°F apart.

Answer:

d.

Reference:

DB-OP-02521, DB-OP-06903

New

Fundamental

K/A Knowledge of the operational implications of the following concepts as they apply to the Station Blackout : Natural circulation cooling

Question # 014  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000056A204

Question:

The plant was operating at 100% RTP. All plant systems were in their normal full power lineup with CCW Train 1 in operation. Ambient temperature was 35°F. The following then occurred:

- Loss of offsite power.
- 4160 Bus C1 locked out.

Which of the following describes the plant response to these conditions?

- a. SW Train 2 will cool CCW Train 2. Circ water will cool secondary loads.
- b. SW Train 2 will cool CCW Train 2. Secondary loads will be cooled by the Station Fire Protection System.
- c. SW Train 2 will cool CCW Train 2 and secondary loads will have no cooling.
- d. No cooling will occur until a control room operator manually aligns circ water to cool CCW Train 2 and secondary loads.

Answer:

a.

Reference:

36847: OPS-GOP-111-03K (ORQ-0107): C1 L/O SW response

New/Bank/Modified

Fundamental/Higher

K/A Ability to determine and interpret the following as they apply to the Loss of Offsite Power: Operational status of service water pump

Question # 015  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000057A112

Question:

Given the following conditions:

- The reactor was at 90% power.
- A loss of NNI-X AC power occurred.
- Plant conditions have been stabilized.

Which of the following actions is required to be taken per DB-OP-02532, "Loss of NNI/ICS Power"?

- a. Maintain RCS pressure using RC-2, "Pressurizer Spray Valve," in MANUAL.
- b. Maintain PZR level using MU 32, "Makeup Flow Controller," in MANUAL.
- c. Maintain and control Makeup flow using the Alternate Injection Line.
- d. When providing boric acid makeup, control Boric Acid Pump flow by throttling MU 366, "BAAT 2 to Makeup Filters," while monitoring local flow indicator FI MU22.

Answer:

b.

Reference:

DB-OP-02532

New

Fundamental

K/A Ability to operate and / or monitor the following as they apply to the Loss of Vital AC Instrument Bus: Manual control of components for which automatic control is lost

Question # 016  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000058K301

Question:

The following plant conditions exist:

- AFW Train 2 Level Control Valve, AF 6451 failed open.
- AFP 2 Governor Control failed as is.
- EDG 2 will not start.

Which of the following will cause the above conditions?

- a. Loss of YBU.
- b. Loss of Y2.
- c. Loss of D2P.
- d. Loss of D2N.

Answer:

c.

Reference:

37801 OPS-GOP-137-01K

37801 ORQ-1085; Effects of D2P loss

BANK

FUNDAMENTAL

K/A Knowledge of the reasons for the following responses as they apply to the Loss of DC Power: Use of dc control power by D/Gs

Question # 017  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000065A103

Question:

The plant has experienced a Severe Loss of Instrument Air during power operation.

PRIOR TO restoration of air and when possible, which ONE of the following is required to be done with any failed pneumatic valve controllers?

- a. The air supply to the controller should be ISOLATED and the controller VENTED.
- b. The air supply to the controller should be ISOLATED and the controller DEENERGIZED.
- c. The controller should be placed in MANUAL and the demand signal should be MATCHED with actual position.
- d. The controller should be placed in MANUAL and the demand signal should be run down to the ZERO position.

Answer:

c.

Reference:

DB-OP-02528

Bank

Fundamental

K/A Ability to operate and / or monitor the following as they apply to the Loss of Instrument Air: Restoration of systems served by instrument air when pressure is regained

Question # 018  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A BW/E04K2.1

Question:

The plant was operating at 100% RTP when a main feedwater pump tripped. All equipment operated as designed. The following inputs to the ICS currently exist:

- Demanded Feedwater Flow is the equivalent of 90%.
- Actual Feedwater Flow is 60%.
- Demanded flux is the equivalent of 95%.
- Actual flux is 90%.

At this moment in time, which of the following describes how cross limits will affect the ICS?

Demanded flux will be modified with a \_\_\_\_\_(lower) signal because \_\_\_\_\_.

- a. -25% Feedwater is limited by Reactor
- b. -25% Reactor is limited by Feedwater.
- c. -10% Feedwater is limited by Reactor
- d. -10% Reactor is limited by Feedwater.

Answer:

b.

Reference:

OPS-SYS-517-05K: 62166; MFP trip effects on cross limits

BANK

HIGHER

K/A Knowledge of the interrelations between the (Loss of Secondary Heat Sink) and the following: Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Question # 019  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000001 AK206

Question:

Given the following conditions:

- Reactor power is at 80% and stable.
  - All ICS stations are in AUTO
  
  - Control Rod Group 5 suddenly start to move out.
  - There is no change in electrical load on the generator (MWe).
  - DB-OP-02516, "CRD Malfunctions," is entered.
- (1) What immediate action is required per DP-OP-02516?
- (2) If control rod motion stops, but a transient is in progress due to a Reactor Power/Feedwater mismatch, what action is specified per DB-OP-02516 to allow Feedwater to control RCS Tave?
- a. (1) Depress AND Hold the ROD STOP pushbutton.  
(2) Place the Reactor Demand H/A station AND the Diamond Control Panel in MANUAL.
  - b. (1) Momentarily depress the ROD STOP pushbutton.  
(2) Place the Reactor Demand H/A station AND the Diamond Control Panel in MANUAL.
  - c. (1) Depress AND Hold the ROD STOP pushbutton.  
(2) Leave all ICS stations in AUTO for optimal response.
  - d. (1) Momentarily depress the ROD STOP pushbutton.  
(2) Leave all ICS stations in AUTO for optimal response.

Answer:

a.

Reference:

DB-OP-02516

New

Fundamental

K/A Knowledge of the interrelations between the Continuous Rod Withdrawal and the following: T-ave./ref. deviation meter.

Question # 020  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000028 AA1.02

Question:  
Given the following two different plant conditions:

Case 1:

The reactor is at 100% power.

- The selected temperature instrument for Pressurizer level control then fails low.

(1) How will PZR level and MU 32, "Makeup Flow Controller," respond to this failure?

Case 2:

- The reactor is at 100% power.
- The PZR level channel selected for Pressurizer level control then fails low.
- A functional PZR level instrument has NOT yet been selected for PZR level control.

The SCR Bank 1 of PZR heaters (2) be controlled in MANUAL for PZR pressure control.

- a. (1) PZR level will lower and MU 32 will open.  
(2) can
- b. (1) PZR level will rise and MU 32 will close.  
(2) can
- c. (1) PZR level will lower and MU 32 will open  
(2) can NOT
- d. (1) PZR level will rise and MU 32 will close.  
(2) can NOT

Answer:

c.

Reference:

DB-OP-02513, OPSYSI104.06

New

Higher

K/A Ability to operate and / or monitor the following as they apply to the Pressurizer Level Control Malfunctions: CVCS

Question # 021  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000051K301

Question:

The plant was at full power operations when an upset caused a high pressure condition in the main steam system. The reactor tripped. The plant responded as expected with the TBVs controlling steam header pressure.

Two minutes later, without operator intervention, the balance of plant operator noticed that the TBVs had just closed and the AVVs have just opened.

A possible cause for this is:

- a. Loss of one circulating water pump
- b. Low vacuum in the main condenser
- c. AVVs automatically opened at 1025 psig.
- d. Steam Header Pressure error exceeded 125 psig.

Answer:

b.

Reference:

New

Fundamental

K/A Knowledge of the reasons for the following responses as they apply to the Loss of Condenser Vacuum: Loss of steam dump capability upon loss of condenser

Question # 022  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000061A101

Question:  
Annunciator 9-3A, UNIT VENT RAD HI has alarmed.

The control room operators determined that the cause of the annunciator was RE 4598BA in HIGH Alarm due to a valid release.

Regarding operation of the Control Room Emergency Ventilation System (CREVS), as supplementary actions, the operators:

- a. Verify both Control Room Ventilation systems have shutdown ONLY.
- b. Verify Control Room HVAC Dampers have closed AND Manually start both CREVS Trains ONLY.
- c. Verify both Control Room Ventilation systems have shutdown AND Verify both CREVS Trains automatically started ONLY.
- d. Verify both Control Room Ventilation systems have shutdown AND Control Room HVAC Dampers have closed AND Manually start both CREVS Trains.

Answer:

d.

Reference:

New

Fundamental

K/A Ability to operate and / or monitor the following as they apply to the Area Radiation Monitoring (ARM) System Alarms: Automatic actuation

Question # 023  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 000076 2.2.22

Question:

Which of the following sets of parameters is kept within limits to prevent exceeding DNB limits?

- a. Axial Power Imbalance, Quadrant Power Tilt, RCS Flow, Control Rod Position
- b. Axial Power Imbalance, RCS Pressure, PZR Level, Thermal Power
- c. RCS Temperature, Quadrant Power Tilt, PZR Level, Control Rod Position
- d. RCS Temperature, RCS Pressure, RCS Flow, Thermal Power

Answer:

a.

Reference:

76040; OPS-GOP-420-01K; OLE; What parameters affect DNB

BANK

FUNDAMENTAL

K/A Knowledge of limiting conditions for operations and safety limits.

Question # 024  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A (B&W) A03 AK1.3

Question:

Given the following conditions:

- The reactor was at 90% power.
- The following annunciator alarms are then received:
  - (14-2-D) ICS/NNI 118V AC PWR TRBL
  - (14-4-E) ICs INPUT MISMATCH
  - (14-4-F) ICs INPUT TRANSFER.
- A loss of NNI-Y AC power occurred.
- Plant conditions have been stabilized.

Which of the following is an action that is specified to be taken per DB-OP-02532, "Loss of NNI/ICS Power," and what is the reason for the action?

- a. Transfer PZR temperature to TT RC15-2 using HS RC15 due to loss of PZR temperature compensation.
- b. Manually control PZR heaters to maintain RCS pressure since the SCR heaters will not function.
- c. Control MU Tank level by positioning MU 11, "Three-Way (Letdown to Radwaste or MU Tank)," as necessary, due to loss of the 18-inch automatic transfer of MU 11 back to the MU Tank.
- d. Control RCS letdown flow by closing MU 85, "Letdown FC Inlet Isolation to MU 6," and cycling MU 4, "Letdown Block Orifice Isolation," as necessary, since MU 6, "Letdown Flow Control Valve" fails to 50% open.

Answer:

d.

Reference:

DB-OP-02532

New

Fundamental

K/A Knowledge of the operational implications of the following concepts as they apply to the (Loss of NNI-Y) Annunciators and conditions indicating signals, and remedial actions associated with the (Loss of NNI-Y).

Question # 025  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A A04K1.3

Question:

The plant was operating at 100% RTP when a loss of all feedwater occurred. The main turbine tripped and, while executing procedures, three RCPs were tripped (2-1 is running). Currently RCS pressure is 2340 psig and RCS temperature is 598°F.

If auxiliary feedwater pump 1 becomes available, you should maintain SG \_\_\_\_\_ level at \_\_\_\_\_ inches on the startup range.

- |    | <u>SG</u> | <u>inches</u> |
|----|-----------|---------------|
| a. | 1         | 40            |
| b. | 1         | 49            |
| c. | 2         | 55            |
| d. | 2         | 124           |

Answer:

b.

Reference:

36841, OPS-GOP-305-02K,  
ORQ-0101; SG Level after regain AFW.

MODIFIED

HIGHER

K/A Knowledge of the reasons for the following responses as they apply to the (Turbine Trip) Manipulation of controls required to obtain desired operating results during abnormal, and emergency situations.

Question # 026  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A B&WA05 AK2.02

Question:

Given the following conditions:

- The plant is in Cold Shutdown.
- DH pump 1 is in service for DHR cooling.
- DH pump 2 is in standby.
  
- A loss of offsite power then occurs.
- (1-3-D) "Bus C1 Lockout" annunciator alarms.
- No operator actions have been taken.

(1) What action is required to be taken with respect to EDG 1?

(2) What is the status of DHR cooling?

- a. (1) Trip EDG 1 from the Control Room.  
(2) DH pump 2 is supplying DHR cooling.
- b. (1) Trip EDG 1 from the Control Room.  
(2) No DHR cooling is presently in service.
- c. (1) Trip EDG 1 locally.  
(2) DH pump 2 is supplying DHR cooling.
- d. (1) Trip EDG 1 locally.  
(2) No DHR cooling is presently in service.

Answer:

d.

Reference:

DB-OP-02521, DB-OP-02527

New

Fundamental

K/A Knowledge of the interrelations between the (Emergency Diesel Actuation) and the following: Facility's heat removal systems, including primary coolant, emergency coolant, the decay heat removal systems, and relations between the proper operation of these systems to the operation of the facility.

Question # 027  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A E03A2.2

Question:

Given the following conditions:

- A LOCA has occurred.
  - The reactor was shutdown.
  - The crew transitioned to DB-OP-02000, Section 5.0, "Lack of Adequate Subcooling Margin."
  - The crew then transitioned to DB-OP-02000, Section 11.0, "RCS Saturated with SGs Removing Heat Cooledown."
  - BWST level is 9 feet.
  - The crew is preparing to transfer the suction of the LPI pumps to the emergency sump per Attachment 7, "Transferring LPI Suction to the Emergency Sump."
- (1) Why is a specific route in the plant designated in Attachment 7 for the local operator to take in order to close the breakers for DH7A, DH7B, DH9A, DH9B, and HP31?
- (2) What would be the effect if the transfer of the suction of the LPI pumps to the emergency sump was attempted with BWST level at 9.5 feet?
- a. (1) Failure to follow this route could result in an excessive dose to perform the task.  
(2) The transfer of the LPI suction could not be performed due to an interlock on the LPI suction valves.
  - b. (1) The route specified has emergency lighting provided to allow safe performance of the task.  
(2) The transfer of the LPI suction could not be performed due to an interlock on the LPI suction valves.
  - c. (1) Failure to follow this route could result in an excessive dose to perform the task.  
(2) The transfer of the LPI suction at this level would allow additional time to complete the transfer prior to loss of LPI suction.
  - d. (1) The route specified has emergency lighting provided to allow safe performance of the task.  
(2) The transfer of the LPI suction at this level would allow additional time to complete the transfer prior to loss of LPI suction.

Answer:

a.

Reference:

DB-OP-02000, Attachment 7 (and Bases for Attachment 7)

New

Higher

K/A Ability to determine and interpret the following as they apply to the (Inadequate Subcooling Margin): Adherence to appropriate procedures and operation within

the limitations in the facility's license and amendments.

Question # 028  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 003 2.2.44

Question:

Given the following conditions:

- Startup is in progress.
- 3 RCPs are running.
- RCS Temperature is 445°F.
- Seal Return Temperature is 179°F.
- RCP Seal Injection was lost and then reestablished to all RCPs 25 minutes ago.
- Component Cooling is operable and available to all RCPs.
- The SRO ordered the 4<sup>th</sup> RCP to be started.

When can the 4<sup>th</sup> RCP be started?

- a. Immediately
- b. After 5 minutes have elapsed
- c. After RCS temperature is raised 5°F
- d. After RCS temperature is raised 55°F

Answer:

b.

Reference:

DB-OP-06005, RC Pump Operation, Revision 21

DB-SD-039A, RCS System Description, Revision 5

New

Higher

K/A Ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives affect plant and system conditions.

Question # 029  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 004 2.1.27

Question:

The purpose of the Letdown System Delay Coil is to:

- a. Allow for the decay of N-16 gammas to minimize radiation in the letdown coolers
- b. Allow for neutron decay to prior to leaving containment
- c. Allow for neutron decay to minimize radiation levels in the letdown coolers
- d. Allow for the decay of N-16 gammas to minimize Auxiliary Building radiation levels

Answer:

d.

Reference:

System Question Review Bank, Section 7.5, OPS-SYS-106-08K

Modified

Fundamental

K/A Knowledge of system purpose and/or function

Question # 030  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 004A401

Question:

Given the following conditions:

- A 100% to 50% power drop has just been performed.
- Power will remain at 50% for 24 hours.
- Letdown flow is 45 gpm from RCP 1-1 suction.
- Letdown Cooler isolation valve MU 1A is OPEN.
- Letdown Cooler isolation valve MU 1B is CLOSED.
- A dilution of the RCS has been initiated.
- Purification Demineralizer 1 is in service.
- Purification Demineralizer 2 is newly charged and in STANDBY.

What is the correct operator action(s) for these conditions?

- a. Open MU 1B and maximize letdown flow
- b. Open MU 1B, Close MU 1A, and maximize letdown flow
- c. Maximize letdown flow immediately and increase the dilution rate
- d. Place Purification Demineralizer 2 in service

Answer:

a.

Reference:

OPS-SYS-1106.07, Makeup and Purification System, Revision 7

New

Higher

K/A Ability to manually operate and/or monitor in the control room: Boron and control rod reactivity effects

Question # 031  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 005A203

Question:

The following plant conditions exist during the refueling outage:

- Unit is in Mode 6
- Core Refueling has been completed
- Vessel Internal Indexing fixture is seated on the vessel flange
- Making preparations to move Upper Plenum Assembly into the vessel
- DH Pump #1 in operation for decay heat removal
- DH Pump #2 being used to transfer water from the refuel cavity to the BWST

Radiological Technicians calling from containment note an increase in containment radiation levels and see a "hole" in the water above the reactor vessel. A control room operator notes oscillating amps on both Decay Heat Removal Pumps. The operator stops both Decay Heat Removal Pumps.

Which of the following is a Technical Specification-required immediate action for this event?

- a. evacuate containment
- b. secure the equipment hatch with at least 4 bolts.
- c. suspend the addition of water to the RCS from sources that could lower the reactor shutdown margin.
- d. restore DHR loop to OPERABLE status OR Initiate action to establish 23 feet of water above the top of the vessel flange.

Answer:

c.

Reference:

New

Memory

K/A Ability to (a) predict the impacts of the following malfunctions or operations on the RHRS, and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: RHR pump/motor malfunction

Question # 032  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 006K605

Question:

The plant was at rated thermal power with DH Pump 2 tagged out and disassembled for motor bearing replacement when a small break LOCA occurred. An SAS Level 2 actuation occurred and all safety systems responded as expected. Approximately 2 hours later the following conditions exist:

- BWST level is approaching 9 ft.
- RCS pressure is 500 psig; temperature is 460°F.

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

- a. Stop HPI Pump 2, then establish piggyback to HPI Pump 1 and MU Pump 1.
- b. Transfer LPI suction to the emergency sump, then piggyback HPI Pump 1 and stop HPI Pump 2.
- c. Transfer LPI suction to the emergency sump, then stop both HPI pumps.
- d. Piggyback both HPI Pumps from LPI Pump 1, then transfer LPI suction to the emergency sump.

Answer:

d.

Reference:

37079; OPS-GOP-304-04K

ORQ-0343; SBLOCA, 9 ft in BWST

BANK

HIGHER

K/A Knowledge of the effect of a loss or malfunction on the following will have on the ECCS: HPI/LPI cooling water

Question # 033  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 006A302

Question:

The plant was operating at 100% RTP with SFAS Channels 2, 3, and 4 sequencers operable. SFAS Channel 1 has been removed from service for maintenance.

If an SFAS Level 2 trip occurred in conjunction with a loss of offsite power, which of the following describes the response of HPI Pump 1 to these conditions?

HPI Pump 1 . . .

- a. starts as soon as AC 101 closes.
- b. starts five seconds after AC 101 closes.
- c. starts 25 seconds after AC 101 closes.
- d. does NOT start automatically.

Answer:

b

Reference:

OPS-SYS-302-02K; (OLC-36940): Ch 1 Sequence Removed with LOOP and SA2 Bank

Higher

K/A Ability to monitor automatic operation of the ECCS, including: Pumps

Question # 034  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 007A101

Question:

The plant was operating at 100% power under normal operating conditions except for a small leak on the PORV seat when IA 2011 (Instrument Air Containment Isolation Valve) failed closed due to an air leak on its controller. Because of this the containment instrument air header depressurized.

The above conditions will cause:

- a. Quench Tank pressure to decrease due to RC 222, Quench Tank Vent to Vent Header, failing open.
- b. Quench Tank level to increase due to RC 229B, Quench Tank Outlet, failing closed.
- c. Reactor Coolant Drain Tank level to increase due to RC 232, Quench Tank Return, failing open.
- d. Reactor Coolant Drain Tank pressure to increase due to RC 2548, RCDT Gas Outlet to the Waste Gas System, failing closed.

Answer:

b.

Reference:

OPS-SYS-104-03K

BANK

HIGHER

2008 NRC Exam

K/A Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the PRTS controls including: Maintaining quench tank water level within limits

Question # 035  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 008K402

Question:

Given the following conditions:

- The reactor is at 100% power.
- CCW Pumps 1-1 and 1-2 are running.
- CCW Pump 1-3 is in Standby as Pump 1.
  
- A leak in the Auxiliary Building then occurs in the CCW system.
- CCW surge tank levels are as follows:
  - Side 1 is steady at 33 inches.
  - Side 2 is at 30 inches and lowering.

Which ONE of the following will be the condition of the plant as the event progresses, based on automatic actions occurring as expected and operator actions taken as required?

- a. CC 1469 (DH Cooler #2 CCW Outlet) auto closed.  
CC 1411A and CC 1411B (CCW CTMT isolation) auto closed.  
CC 1328 and CC 1338 (CCW to CRD booster pump suction) auto closed.
- b. All non-essential CCW headers have automatically isolated.  
Both CC CRD booster pumps have automatically tripped.  
The plant is stable on natural circulation flow.
- c. CC 1495 (CCW to Aux BLDG. Non-Essential header) auto closed.  
CCW pump 1-3 has automatically started on CCW surge tank lo-lo level.  
CCW pump 1-2 was manually tripped.
- d. CCW pumps 1-1, 1-2 and 1-3 are manually tripped due to low suction pressure.

Answer:

b.

Reference:

DB-OP-02523, SD-016

Bank

Higher

K/A Knowledge of CCWS design feature(s) and/or interlock(s) which provide for the following: Operation of the surge tank, including the associated valves and controls

Question # 036  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 010 EA1.01

Question:

When setting RC 49, "Pressurizer Minimum Flow Spray Valve," a MINIMUM bypass spray flow of (1) is required to provide for boron equalization between the RCS and the Pressurizer and to prevent thermal shock of the PZR spray nozzles.

When setting RC 49, "Pressurizer Minimum Flow Spray Valve," per DB-OP-06003, "Pressurizer Operating Procedure," notifications are required to appropriate personnel ONLY if the total PZR heater output with the minimum spray flow exceeds (2).

- a. (1) 0.75 gpm  
(2) the rated size of SCR Bank 1
- b. (1) 3.0 gpm  
(2) the rated size of SCR Bank 1
- c. (1) 0.75 gpm  
(2) the rated size of one Essential Bank of PZR heaters
- d. (1) 3.0 gpm  
(2) the rated size of one Essential Bank of PZR heaters

Answer:

c.

Reference:

DB-OP-06003, OPSYSSI104.06

New

Higher

K/A Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the PZR PCS controls including: PZR and RCS boron concentrations

Question # 037  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 010K502

Question:  
Given the following conditions:

- Pressurizer pressure is 2155 psig.
- Quench tank pressure is 5 psig.

Which one of the following would be the approximate initial downstream tailpipe temperature (if local temperature indication was obtained) if RC 2A, Pressurizer Relief Valve, opened?

- a. 165°F
- b. 212°F
- c. 230°F
- d. 340°F

Answer:

c.

Reference:

Steam Tables

Bank

Higher

K/A Knowledge of the operational implications of the following concepts as they apply to the PZR PCS: Constant enthalpy expansion through a valve

Question # 038  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 012A306

Question:

The following plant conditions exist:

- A plant startup is in progress with the Reactor at 77% power.
- Reactor Coolant Pump (RCP) 1-1-2 amps reads 100 amps.
- RCS loop 1 flow is lowering.
- Total RCS flow is lowering.

Which one of the following Reactor Protection System (RPS) indications can be expected for the conditions above?

- a. All four RPS Reactor Trip module lights will be bright.
- b. All four RPS Cabinet RCP Contact Monitor modules will have a bright light for RCP 1-1-2.
- c. Only the Channel 2 RPS Cabinet Reactor Trip Module light will be bright.
- d. Only the Channel 2 RPS Cabinet RCP Contact Monitor module will have a bright light for RCP 1-1-2.

Answer:

b.

Reference:

76866; OPS-SYS-504-11K: RPS indication for RCP with low amps

BANK

HIGHER

1008 NRC Exam

K/A Ability to monitor automatic operation of the RPS, including: Trip logic

Question # 039  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 012K606

Question:

The RCS Pressure transmitters on RCS Loop A Hot leg have lost power.

This condition would cause the RCS Pressure Trip Bistable output state lamps on \_\_\_(1)\_\_\_ to become \_\_\_(2)\_\_\_.

- |    | 1.                 | 2.     |
|----|--------------------|--------|
| a. | RPS Channels 1 & 3 | dim    |
| b. | RPS Channels 1 & 3 | bright |
| c. | RPS Channels 2 & 4 | dim    |
| d. | RPS Channels 2 & 4 | bright |

Answer:

d.

Reference:

New

Fundamental

K/A Knowledge of the effect of a loss or malfunction of the following will have on the RPS: Sensors and detectors.

Question # 040  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 013A402

Question:

The plant was operating at 100% power with all systems normal when the following occurred:

- R.C. Pressure Lo Bistable, BA 404, trips on SFAS Channel 4.
- RCS pressures remain at 2155 psig.

Which one of the following describes all of the associated indications on the SFAS Output Modules?

A 1/5 light lights on all SA Level (1) Output Modules in SFAS Channel(s) (2).

- |    | (1)         | (2)           |
|----|-------------|---------------|
| a. | 1 and 2;    | 2 and 4 only  |
| b. | 1 and 2;    | 1, 2, 3 and 4 |
| c. | 1, 2 and 3; | 1, 2, 3 and 4 |
| d. | 1, 2 and 3; | 2 and 4 only  |

Answer:

b.

Reference:

OPS-SYS-506-08K

BANK

HIGHER

K/A Ability to manually operate and/or monitor in the control room: Reset of ESFAS channels

Question # 041  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 013K303

Question:

The following plant conditions exist:

- Power to 120V Bus Y4 was lost two minutes ago due to a bus fault.
- Applicable operating procedures have been entered.
- Tech Spec 3.8.9 was entered.
- Containment Pressure Transmitter PT2002 has just failed high.
- Reactor Coolant System Pressure is 2150 and decreasing.

Based on the above conditions, what is the status of the Containment Spray System?

- a. ONLY Containment Spray Pump A is running with its discharge valve open.
- b. ONLY Containment Spray Pump B is running with its discharge valve closed.
- c. BOTH Containment Spray Pumps are running with their discharge valves open.
- d. NEITHER Containment Spray Pump is running; Both discharge valves are closed.

Answer:

c.

Reference:

OPS-SYS-1506.05, SFAS Lesson Plan

NEW

HIGHER

K/A Knowledge of the effect that a loss or malfunction of the ESFAS will have on the following: Containment

Question # 042  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 022K201

Question:

The plant is operating at 100% power with all systems in their normal full power lineup with the exception of the DIV 2 Emergency Diesel Generator (EDG) and its associated systems. The DIV 2 EDG is currently disassembled for preventative maintenance. All other associated systems are normally aligned and available for the D/G outage. If a Loss of Offsite Power occurred under these conditions, what is the status of the Containment Air Cooling Fans?

- a. ONLY Fan 1-1 stops.
- b. ONLY Fan 1-3 stops.
- c. BOTH Fan 1-1 and 1-3 stop.
- d. BOTH fan 1-1 and 1-3 stop and then ONLY Fan 1-1 restarts after 5 seconds.

Answer:

c.

Reference:

OPS SYS-1306.05, SFAS Lesson Plan

NEW

HIGHER

K/A Knowledge of power supplies to the following: Containment cooling fans

Question # 043  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 026K102

Question:

The alarm occurring when Containment Spray System (CSS) flow drops below 1100 gpm provides warning that:

- a. Flow has dropped below the adequate CSS pump cooling flow rate
- b. NPSH limits have been exceeded
- c. Flow has dropped below CSS system minimum flow rate
- d. Containment Isolation Valves CS1530 and CS1531 have been throttled beyond 50% closed

Answer:

c.

Reference:

System Description 022A, Revision 3, Containment Spray System, TABLE 2.5-3  
BASES FOR SETPOINTS (p. T2.5-3-1)

New

Fundamental

K/A Knowledge of the physical connections and/or cause-effect relationships  
between the CSS and the following systems: Cooling water

Question # 044  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 039K107

Question:

With a Main Feedwater line rupture occurring just upstream of FW147 (FW check valve to SG 1), each AFPT will be supplied steam from (1).

With a Main Feedwater line rupture occurring just downstream of FW147 (FW check valve to SG 1), each AFPT will be supplied steam from (2).

- a. (1) SG 2  
(2) both SGs
- b. (1) SG 2  
(2) SG 2
- c. (1) both SGs  
(2) both SGs
- d. (1) both SGs  
(2) SG 2

Answer:

d.

Reference:

OPS-SYS-I207.05, Section H

New

Higher

K/A Knowledge of the physical connections and/or cause-effect relationships between the MRSS and the following systems: AFW

Question # 045  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 059K102

Question:

The plant is operating at 100% power.

The Motor Driven Feed Pump suction would be NORMALLY aligned to the (1)  
and the discharge would be NORMALLY aligned to the (2).

- a. (1) Deaerator Storage Tank  
(2) Main Feed Water System
- b. (1) Condensate Storage Tank  
(2) Main Feed Water System
- c. (1) Condensate Storage Tank  
(2) Auxiliary Feed Water System
- d. (1) Deaerator Storage Tank  
(2) Auxiliary Feed Water System

Answer:

c.

Reference:

SD-014, "System Description for Main Feedwater System," Rev. 5, page 2-6

Bank

Fundamental

K/A Knowledge of the physical connections and/or cause-effect relationships  
between the MFW and the following systems: AFW system

Question # 046  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 061K201

Question:

Given the following conditions:

- The reactor was In Mode 3 at full RCS temperature and pressure.
- AFW flow was throttled to control flow to each SG.
  
- A loss of an Essential DC Distribution Panel then occurs.
- AF6452, "Aux Feed SG Level Control Valve" has failed open.

Which Essential DC Distribution panel has lost power?

- a. D1N
- b. D1P
- c. D2N
- d. D2P

Answer:

b.

Reference:

DB-OP-02537, Attachment 2

New

Fundamental

K/A Knowledge of bus power supplies to the following: AFW system MOVs.

Question # 047  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 062K302

Question:

Given the following conditions:

- EDG 1 is operating in parallel at 2600 KW.
- A loss of offsite power then occurs.

(1) What is a concern associated with the operation of EDG 1?

(2) What action will be required to mitigate the effect?

- a. (1) EDG 1 will load shed and become reverse powered.  
(2) Locally place the Isochronous-Droop switch for EDG 1 in the isochronous mode.
- b. (1) EDG 1 may overload reaching 3300 KW until an undervoltage condition occurs.  
(2) Locally place the Isochronous-Droop switch for EDG 1 in the isochronous mode.
- c. (1) EDG 1 will load shed and become reverse powered.  
(2) Align EDG 1 as the sole source of power to Bus C-1.
- d. (1) EDG 1 may overload reaching 3300 KW until an undervoltage condition occurs.  
(2) Align EDG 1 as the sole source of power to Bus C-1.

Answer:

d.

Reference:

DB-SC-03070, DB-OP-06316

New

Fundamental

K/A Knowledge of the effect that a loss or malfunction of the ac distribution system will have on the following: ED/G

Question # 048  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 063K402

Question:

The plant was operating at 100% RTP in a normal full power lineup when the following events occurred:

- A loss of breaker status indication for all B bus load breakers and all D1 Bus breakers.
- The reactor tripped.
- A Main Steam Safety Valve on SG 1 opened and stuck open.

Which one of the following should the control room operators perform?

- a. Direct an auxiliary operator to take local manual control of AFP2 to prevent SG overfeed.
- b. Monitor the ICS to ensure the plant responds correctly. Take manual action only if necessary to compensate for unexpected equipment failure.
- c. Direct an auxiliary operator to locally trip MFPT 1 because it cannot be tripped from the control room.
- d. Perform an emergency shutdown of EDG 2.

Answer:

a..

Reference:

36465; OPS-GOP-137-04K, OPS-GOP-137-08K; Loss of D2P and DBP actions.

Bank

Higher

K/A Knowledge of DC electrical system design feature(s) and/ or interlock(s) which provide for the following: Breaker interlocks, permissives, bypasses and cross-ties.

Question # 049  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 064K402

Question:

The plant was operating at 100% power in a normal full-power line-up with the emergency diesel generator running for its monthly surveillance. The emergency diesel generator was paralleled with the grid and at full load when the pressurizer PORV opened. Operators were unable to shut the PORV block valve before RCS pressure decreased to 1500 psig. Which of the following describes the condition of the EDG and the SFAS load sequencer under these plant conditions?

The EDG. . .

- a. engine remains running and the load sequencer is not started.
- b. engine remains running and the load sequencer is started.
- c. engine trips and the load sequencer is not started.
- d. output breaker trips, then recloses. The load sequencer is then started.

Answer:

a.

Reference:

OPS-SYS-506-07K

Modified

Higher

K/A Knowledge of ED/G system design feature(s) and/or inter-lock(s) which provide for the following: Trips for ED/G while operating (normal or emergency)

Question # 050  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 064A108

Question:

Given the following conditions:

- EDG 1 is running at 900 rpm.
- Bus C1 voltage is 4160 Vac.
- You have just closed breaker AC101, "DG 1 To Bus C1," according to procedure.

Which ONE of the following is the action to be taken and the reason for the action?

- a. Go to raise on EDG 1 voltage regulator control switch to prevent an undervoltage condition on C1 bus.
- b. Go to lower on EDG 1 speed control switch to prevent an overspeed trip of EDG 1.
- c. Go to raise on EDG 1 speed control switch to prevent a reverse power trip.
- d. Go to lower on EDG 1 voltage regulator control switch to prevent an overvoltage condition on C1 bus.

Answer:

c.

Reference:

DB-SC-03070, DB-OP-06316

Bank

Fundamental

K/A Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the ED/G system controls including:  
Maintaining minimum load on ED/G (to prevent reverse power)

Question # 051  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 073K502

Question:

Main Steam Line monitors, RE600 and RE609, to ensure adequate response, utilize:

- a. Beta scintillation detectors
- b. Gamma scintillation detectors
- c. Geiger-Mueller detectors
- d. Ionization Chamber detectors

Answer:

b.

Reference:

System Description 017A, Revision 3, Process Radiation Monitors, Sections 2.1.1.2 and 2.1.1.6

New

Fundamental

K/A Knowledge of the operational implications as they apply to concepts as they apply to the PRM system: Radiation intensity changes with source distance

Question # 052  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 076A201

Question:

Given the following conditions:

- Reactor power is 37%.
- The Motor Driven Feedwater Pump is the only source of feedwater available.
- Service Water Loop 1 has just been lost to the primary loads.
- Various system temperatures are being monitored and are as indicated below.
- MDFP lube oil temperature is 150°F.
- Main Generator cold gas temperature is 115°F.
- CCW HX outlet temperature is 115°F.
- CRD stator temperatures are at 160°F.

Which ONE of the following actions is required to be performed at this time?

- a. Reduce reactor power using DB-OP-02504, "Rapid Shutdown."
- b. Trip the turbine and go to DB-OP-02500, "Turbine Trip."
- c. Trip the reactor, trip all RCPs, and go to DB-OP-02000, "RPS, SFAS, SFRCS Trip, or SG Tube Rupture."
- d. Trip the reactor, initiate and isolate both SGs with the SFRCS Manual Actuation Switches, stop the MDFP, and go to DB-OP-02000, "RPS, SFAS, SFRCS Trip, or SG Tube Rupture."

Answer:

a.

Reference:

DB-OP-02511

Modified

Higher

K/A Ability to (a) predict the impacts of the following malfunctions or operations on the SWS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of SWS

Question # 053  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 078K302

Question:

The plant was operating at 100% RTP when annunciator 9-1-F, INSTR AIR HDR PRESS LO alarmed. The Reactor Operator reported that instrument air pressure (using PI 810) reads 72 psig and the secondary plant appears stable.

Which of the following sets of actions is required to be performed under these circumstances?

- a. Manually trip the reactor, initiate AFW flow and isolation of both SGs.
- b. Perform a rapid plant shutdown per DB-OP-02504, Rapid Shutdown, start the standby station air compressor and the emergency instrument air compressor.
- c. Maintain reactor power at the present level, dispatch operators to locate the cause of excessive air demand.
- d. Rapidly decrease power per DB-OP-0254, Rapid Shutdown, until instrument air increases to approximately 90 psig.

Answer:

a.

Reference:

OPS-GOP-128-02K

ORQ-0824, 37548; Loss of Air

BANK

HIGHER

K/A Knowledge of the effect that a loss or malfunction of the IAS will have on the following: Systems having pneumatic valves and controls

Question # 054  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 078A301

Question:

The plant was operating at 100% RTP when RPS Ch. 2 Loop 1 flow transmitter failed LOW. If RPS Ch. 2 flow is the selected input to NNI, which one of the following is the expected plant response?

- a. Feedwater will re-ratio until the first SG reaches low level limits.
- b. Feedwater will NOT re-ratio because all four RCPs are still running.
- c. Feedwater will attempt to re-ratio but will be limited when a cross limit is reached.
- d. Feedwater will NOT re-ratio because the delta  $T_c$  Controller will compensate for the failure.

Answer:

b.

Reference:

OPS-SYS-512-01K

OPS-SYS 516-04K: 32428; RCS

BANK

HIGHER

K/A Ability to monitor automatic operation of the IAS, including: Air pressure

Question # 055  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 103A404

Question:

Given the following conditions:

- The plant experienced a small break LOCA.
- An SFAS Level 1, 2, and 3 actuation occurred.
- There was a need to sample the containment and thus a need to re-open the Containment Air Sample Supply and Return containment isolation valves (CV5010A through CV5010E, and CV5011A through CV5011E) that were closed due to the SFAS actuations.
- The BLOCK pushbuttons on the Output Modules for the associated valves were PRESSED.
- The Containment Air Sample Supply and Return Isolation Valves were then re-opened.

The associated Safety Actuation Monitoring (SAM) lights for the Containment Air Sample Supply and Return Isolation Valves would be \_\_\_\_\_.

- a. DIM
- b. BRIGHT (NOT FLASHING)
- c. BRIGHT and FLASHING
- d. NOT LIT

Answer:

c.

Reference:

OPS-SYS-1506.04, Section 12, page 27

DB-OP-02000, Attachment 9

New

Higher

K/A Ability to manually operate and/or monitor in the control room: Phase A and phase B resets

Question # 056  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 001A104

Question:

Reactor power is being increased from 60% back to 100% following repairs to the B Main Feed Pump. No equipment is out of service and all equipment lineups are as expected for the given conditions. Select the answer below that summarizes the expected pressurizer response as power is increased.

- a. Pressurizer level and pressure will increase to higher steady state values due to an in-surge of reactor coolant as hot-leg temperature increases due to increased power production.
- b. Pressurizer level and pressure will initially decrease due to an out-surge from the pressurizer as cold-leg temperature decreases due to increased steam demand, then return to pre-transient values
- c. Pressurizer level and pressure will initially increase due to an in-surge of reactor coolant as hot-leg temperature increases due to increased power production, then return to pre-transient values.
- d. Pressurizer level will increase to a higher steady state value due to an in-surge of reactor coolant as hot-leg temperature increases due to increased power production; pressure will initially increase, then return to pre-transient values.

Answer:

c.

Reference:

DB-OP-6902, Power Operations; Revision 23

OPSYSI104, Pressurizer System Lesson Plan; Revision 6

SD-045, Integrated Control System; Revision 4

SD-048, Makeup and Purification System; Revision 4

New

Higher

K/A Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the CRDS controls including: PZR level and pressures

Question # 057  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 002A204

Question:

The plant is in cold shutdown with preparations in progress to heatup/startup the plant. It has just been discovered that the ultimate heat sink water temperature is 92°F. Can the plant heatup and reactor startup proceed to Mode 4?

- a. No. The applicable LCO is not met when service water inlet to CCW heat exchanger temperature is >90°F.
- b. No. The technical specification actions do not allow unlimited operation when average ultimate heat sink water temperature is >90°F.
- c. Yes. The applicable LCO is met provided UHS water temperature is ≤90°F within six hours after exceeding 200°F.
- d. Yes. A note to the technical specification actions exempts LCO 3.0.4 when RCS average temperature is above 200°F.

Answer:

b.

Reference:

76241; OPS-GOP-437-K; ITS; UHS – Mode Change

Bank

Higher

K/A Ability to (a) predict the impacts of the following malfunctions or operations on the RCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of heat sinks

Question # 058  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 011A303

Question:  
Given the following conditions:

- RC pressure is 1600 psig
- Pressurizer level is ZERO (0) inches
- All components operated as designed
- No operator actions were taken

Which valve(s) will have AUTOMATICALLY isolated letdown?

- a. MU1A and MU1B (Letdown Cooler Isolations)
- b. MU3 (Letdown Containment Isolation) and MU2B (Letdown Isolation)
- c. MU2A (Letdown Cooler Outlet Isolation) and MU4 (Block Orifice Isolation)
- d. MU2A (Letdown Cooler Outlet Isolation) and MU3 (Letdown Containment Isolation)

Answer:

d.

Reference:

OPS-SYS-1106.07

Bank

Fundamental

K/A Ability to monitor automatic operation of the PZR LCS, including: Charging and letdown

Question # 059  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 014A402

Question:

The following plant conditions exist:

- A Reactor Start-Up is in progress
- Group 4 rods are being withdrawn in Manual
- Indication for Rod 4-1 is erratic
- An "Asymmetry Fault" alarm is illuminated on the rod control panel

Which of the following is the setpoint for the rod alarm?

- a. Relative position indication (RPI) indicates a 5% difference between any rod and its group average position.
- b. Absolute position indication (API) indicates a 5% difference between any rod and its group average position.
- c. Relative position indication (RPI) indicates a 6.5% difference between any rod and its group average position.
- d. Absolute position indication (API) indicates a 6.5% difference between any rod and its group average position.

Answer:

d.

Reference:

Modified

Fundamental

K/A Ability to manually operate and/or monitor in the control room: Control rod mode-select switch

Question # 060  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 015K101

Question:

During a reactor start-up when should you expect the Control Rod Withdrawal Inhibit to be automatically deactivated / blocked?

When:

- a. any one Power Range NI channel exceeds 10% power.
- b. NI-5 and NI-6 Power Range NI channels exceed 10% power.
- c. NI-7 and NI-8 Power Range NI channels exceed 10% power.
- d. NI-5 and NI-7 Power Range NI channels exceed 10% power.

Answer:

d.

Reference:

New

Fundamental

K/A Knowledge of the physical connections and/or cause-effect relationships between the NIS and the following systems: RPS

Question # 061  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 016K301

Question:

The following plant conditions exist:

- The plant is at 98% power.
- Selected pressurizer level indication is from LT RC14-2.
- Selected pressurizer temperature indication is from TT RC15-1.
- A Loss of **NNI-X DC Power** just occurred.
- SASS functions as designed.

In accordance with DB-OP-02532, Loss of NNI/ICS Power, what actions are directed?

- a. Take Manual Control of EHC Control Panel and the SG/RX Demand Station and Manually Lower Turbine Load. Manually Control Pressurizer Heaters and Spray.
- b. Take Pressurizer level transmitter and Pressurizer temperature transmitter to NNI-Y powered transmitters to allow compensated Pressurizer Level indication to be obtained.
- c. Take Manual Control of EHC Control Panel but **not** the SG/RX Demand Station and Manually Lower Turbine Load. Manually Control Pressurizer Heaters and allow Pressurizer Spray to function in Auto.
- d. When MU Tank Level drops below 10 inches, verify both MU 3971 and MU 6405 transfer to the BWST.

Answer:

a.

Reference:

New

Higher

K/A Knowledge of the effect that a loss or malfunction of the NNIS will have on the following: RCS

Question # 062  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 035K401

Question:

The plant was operating at 100% RTP with all major controls in AUTO when the diaphragm ruptured on the differential pressure (D/P) cell causing an instantaneous change in the level signal to the selected SG Operating Range level channel.

Which of the following correctly describes Steam Generator level response? (Assume NO operator actions.)

The control room SG Operating Level indicators indicates (1); actual SG level will (2).

- |    | (1)  | (2)                                    |
|----|------|--|
| a. | HIGH | lower until low level limit is reached |
| b. | HIGH | remain the same due to SASS transfer   |
| c. | LOW  | remain the same due to SASS transfer   |
| d. | LOW  | rise until a cross-limit is reached    |

Answer:

a.

Reference:

OPS-SYS-516-04K: 70963; SG level transmitter failure

New/Bank/Modified

Fundamental/Higher

K/A Knowledge of S/GS design feature(s) and/or interlock(s) which provide for the following: S/G level control

Question # 063  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 041K201

Question:

The plant was operating at 100% RTP with all systems in their normal full-power lineup when a loss of all power to the Integrated Control System occurred.

If no operator actions are taken, what will be the status of the main feed pumps after the loss of ICS DC power?

- a. tripped and coasting to a stop.
- b. coast down and continue to run at the turbine low speed stop (3900 rpm).
- c. coast down and run at 4400 rpm.
- d. accelerate and continue to run at the high speed stop (5300 rpm).

Answer:

c.

Reference:

OPS-SYS-524-04K; Loss of ICS power on MFP

Bank

Higher

K/A Knowledge of bus power supplies to the following: ICS, normal and alternate power supply

Question # 064  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 068K610

Question:

A Liquid Radwaste Release is needed to be performed from the Miscellaneous Waste Monitor Tank. However, Radiation Monitors RE-1878A and B are both currently inoperable. To perform the Liquid Release from the Miscellaneous Waste Monitor Tank what actions must be taken in accordance with the ODCM, Offsite Dose Calculation Manual, and DB-OP-03011, Radioactive Liquid Batch Release to accomplish this?

- a. Pull and analyze two independent samples ONLY.
- b. Pull and analyze two independent samples AND perform two independent verifications of the release rate calculations ONLY.
- c. Pull and analyze two independent samples AND perform two independent verifications of the release rate calculations AND two independent verifications of the discharge valve lineup ONLY.
- d. Pull and analyze two independent tank samples AND perform two independent verifications of the release rate calculations AND two independent verifications of the discharge valve lineup AND one of the Radiation Monitors RE-1878A or B must be returned to service prior to the release.

Answer:

c.

Reference:

New

Higher

K/A Knowledge of the effect of a loss or malfunction on the following will have on the Liquid Radwaste System: Radiation monitors

Question # 065  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 072K501

Question:

Radiation Monitor RE-8446 has just failed HIGH. Radiation Monitor RE-8447 is reading normally. How will the plant respond to this failure?

- a. There will be no automatic plant response.
- b. The running FH HVAC train will trip and one train of EVS will start.
- c. The running FH HVAC train will trip and BOTH trains of EVS will start.
- d. The running FH HVAC will not trip but one train of EVS will start.

Answer:

b.

Reference:

Lesson Plan OPS-SYS-I508.06, Process and Area Rad Monitoring.

New

Higher

K/A Knowledge of the operational implications of the following concepts as they apply to the ARM system: Radiation theory, including sources, types, units, and effects.

Question # 066  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 2.1.4

Question:

For this calendar quarter, a licensed operator performed the following activities:

July 1:	0600-1800 hours	ATC operator
July 2:	0600-1800 hours	Work Support Center
July 3:	0600-1800 hours	BOP operator
July 4:	0600-1400 hours	BOP operator
July 16:	1800-0600 hours	ATC operator

What is the MINIMUM number of additional hours, if any, required in this calendar quarter for the operator to maintain an active license according to NT-OT-07001, "Training and Qualifications of Operations Personnel"?

- a. None
- b. 12 hours
- c. 16 hours
- d. 24 hours

Answer:

d.

Reference:

NT-OT-07001

Modified

Higher

K/A Knowledge of individual licensed operator responsibilities related to shift staffing, such as medical requirements, "no-solo" operation, maintenance of active license status, 10CFR55, etc.

Question # 067  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 2.1.25

Question:  
Given the following conditions:

- The plant is in Mode 5.
- The plant is drained down with RCS level at 30 inches above the Hot Leg center line.
- It is 10 days after reactor shutdown.

A loss of Decay Heat Removal then occurs.

Assuming that a source of decay heat removal is not restored, of the following choices, what is CLOSEST time (in minutes), it would take for the RCS to boil down to an RCS level corresponding to the Top of Core?

- a. 35 minutes
- b. 39 minutes
- c. 155 minutes
- d. 190 minutes

Answer:

d.

Reference:

DB-OP-06703, Curves CC6.3c and CC6.3d

New

Higher

K/A Ability to interpret reference materials, such as graphs, curves, tables, etc.

Question # 068  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 2.2.12

Question:

Which ONE of the following describes a Critical Periodic Test?

- a. Verifies the proper functioning of equipment and systems important to continued safe plant operations that ARE addressed by Technical Specification Surveillance Requirements.
- b. Verifies the proper functioning of equipment and systems important to continued safe plant operations that ARE NOT addressed by Technical Specification Surveillance Requirements.
- c. Verifies the OPERABILITY of safety-related systems that are required to satisfy Appendix R Safe Shutdown criteria and ARE addressed by Technical Specification Surveillance Requirements.
- d. Verifies the OPERABILITY of safety-related systems that are required to satisfy Appendix R Safe Shutdown criteria and ARE NOT addressed by Technical Specification Surveillance Requirements.

Answer:

b.

Reference:

NOP-WM-2003, Definition 3.3

Bank

Fundamental

K/A Knowledge of surveillance procedures.

Question # 069  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 2.2.35

Question:

The plant had been operating at 100% RTP for 2 years and had shutdown for a refuel outage. The following plant conditions exist:

- Mode 5
- Tave is 155°F
- RCS pressure is 60 psig
- PZR level is 85 inches
- SBODG is out of service

RCS cooldown and depressurization was in progress using DHR Train 1 when the following annunciators actuated:

- 1-3-D, BUS C1 LOCKOUT
- 1-3-H, BUS D1 LOCKOUT
- 1-4-D, BUS C1 VOLTAGE
- 1-4-E, BUS A LOCKOUT
- 1-4-G, BUS B LOCKOUT
- 1-4-H, BUS D1 VOLTAGE

Which of the following represent the final plant conditions?

- a. Mode 5, Natural circulation
- b. Mode 4, Natural circulation
- c. Mode 4, Gravity draining the BWST into the RCS
- d. Mode 5, Gravity draining the BWST into the RCS

Answer:

b.

Reference:

39189, OPS-GOP-127-03K; OLE-4619; Loss of DH in Mode 5

New/Bank/Modified

Fundamental/Higher

K/A Ability to determine Technical Specification Mode of Operation.

Question # 070  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 2.2.42

Question:

The plant is in Mode 5 with preparations being made for a plant startup/heatup. The following electrical plant conditions exist:

- The 120 VAC Inverter YV1 is supplied from the DC bus.
- Vital Bus Y1 has been manually transferred to the 480 VAC MCC via the constant voltage transformer.
- A risk assessment has not been performed.

Which of the following describes the status of moving the plant to Mode 4 with the associated plant heatup?

- a. Technical Specifications prohibit unlimited operation when the inverter is bypassed with power supplied via the constant voltage transformer. The heatup/startup CANNOT be continued until the inverter is restored.
- b. The applicable LCO is NOT met when the inverter is supplied from the DC bus regardless of the manual inverter bypass switch position. The heatup/startup CANNOT be continued.
- c. The applicable LCO is met provided the inverter is restored to operable status within 24 hours after exceeding 200°F. The heatup/startup CAN be continued.
- d. The applicable LCO is NOT met. However, the heatup/startup CAN be continued provided the inverter is restored to operable status within 24 hours of moving to MODE 4.

Answer:

a.

Reference:

ITS 3.8.7

Modified

Higher

K/A Ability to recognize system parameters that are entry-level conditions for Technical Specifications.

Question # 071  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 2.3.4

Question:

A male radiation worker at Davis-Besse has just returned from 3 weeks of outage support at Beaver Valley in April 2009.

- His Total Effective Dose Equivalent (TEDE) received at Beaver Valley was 150 mrem.
- After a fall at home in May 2009, the worker had a hip x-ray estimated at 22 mrem exposure to the hip area.
- The worker's current TEDE from Davis-Besse for this year is 75 mrem.

Based on these exposures, choose the calculated MAXIMUM annual non-emergency TEDE that he can receive at Davis-Besse for the remainder of this year without exceeding the Federal Exposure Limits assuming all required approvals are obtained.

- a. 4753 mrem.
- b. 4775 mrem.
- c. 4903 mrem.
- d. 4925 mrem.

Answer:

b.

Reference:

10 CFR 20

Modified

Higher

K/A Knowledge of radiation exposure limits under normal or emergency conditions.

Question # 072  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 2.3.15

Question:

Which one of the following types of radiation detectors is used by the Containment High Range Radiation Monitors?

- a. Gieger-Mueller
- b. Fission Chamber
- c. Ionization Chamber
- d. Gamma Scintillation

Answer:

c.

Reference:

SD-017A, System Description for Process Radiation Monitors; Revision 3

SD-017B, System Description for Area Radiation Monitors; Revision 4

New

Fundamental

K/A Knowledge of radiation monitoring systems, such as fixed radiation monitors and alarms, portable survey instruments, personnel monitoring equipment, etc.

Question # 073  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 2.4.1

Question:

The plant was operating at 100% RTP with the ICS in full automatic. An unexpected reduction in feedwater occurred with the following results:

- Pressurizer level is 280 inches and rising at 5 inches per minute.
- Reactor coolant outlet temperature is 619°F and rising at 2°F per minute.
- Pressurizer Spray is open as required.
- RCS pressure is 2320 psig and rising at 50 psi per minute.

Which of the following action is required?

- a. Manually trip the reactor.
- b. Initiate a controlled plant shutdown.
- c. Manually reduce reactor power to match current feedwater flow.
- d. No action is required. Monitor ICS response to the event and ensure the runback is tracking correctly. Take manual control only as necessary to stabilize the plant.

Answer:

a.

Reference:

63036; OPS-GOP-302-01K; OPS-GOP-420-01K; ATWS (OLE-48152)

BANK

HIGHER

K/A Knowledge of EOP entry conditions and immediate action steps.

Question # 074  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 2.4.31

Question:

Main Control Room annunciator windows associated with Emergency Operating Procedure entry conditions are identified by . . .

- a. the color of the alarm window's lamps.
- b. their position within the corresponding alarm group.
- c. the letter "R" in the lower left hand corner of the window.
- d. an alternating beige and black border around the window.

Answer:

a.

Reference:

Lesson Plan OP-SYS-I509, Station Annunciator; Revision 6

New

Fundamental

K/A Knowledge of Annunciator alarms, indications, or response procedures.

Question # 075  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level B  
K/A 2.4.34

Question:

The unit had been operating at full power for several days when an event (not a fire) required evacuation of the Main Control Room. Abnormal Procedure DB-OP-2508, Control Room Evacuation, immediate actions have been completed.

In accordance with DB-OP-2508, the Primary Side Reactor Operator is responsible for ensuring that:

- a. local shutdown control from the Aux Shutdown Panel is established
- b. instrument air to the Main Steam Atmosphere Vent is isolated
- c. Aux Feed Pumps are operating properly
- d. Reactor Coolant Letdown is restored

Answer:

d.

Reference:

DB-OP-2508, Control Room Evacuation; Revision 8

New

Fundamental

K/A Knowledge of RO tasks performed outside the main control room during an emergency and the resultant operational effects.

Question # 076  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 000007 2.2.37

Question:

Given the following conditions:

- The plant was at 100% power.
- PZR PORV RC2A was determined to be leaking and the PORV Block Valve RC11 was closed in accordance with DB-OP-02513, "Pressurizer System Abnormal Operation"
- A reactor trip from 100% power then occurred.
- An RCS pressure transient occurred following the reactor trip that resulted in PZR Safety Valve RC 13A momentarily lifting as indicated by flow on Acoustic Monitors ZI 4267A and ZI 4268A on the Post Accident Monitoring Panels.
- During the transient PZR level increased up to the PZR LVL HI (4-3-E) alarm setpoint, and PZR level has since been restored to 220 inches.
- Plant conditions have been stabilized and a Post Trip Review is in progress per DB-OP-06910, Attachment 6.

What is an action that is required regarding the lifting of the PZR Safety Valve?

- a. Notify the NRC that a PZR Safety Valve has lifted within 30 days.
- b. Notify the NRC that a PZR Safety Valve has lifted in the Annual Report.
- c. Remove the PZR Safety Valve and inspect.
- d. Notify Nuclear Engineering that a Stress Evaluation may need to be performed.

Answer:

d.

Reference:

DB-OP-06910

New

Higher

K/A Ability to determine operability and/or availability of safety related equipment.

Question # 077  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 000008A201

Question:

Given the following conditions:

- The plant was at 100% power.
- RC 2, "PZR Spray Valve," then failed open and RC10, "PZR Spray Block Valve," could not be closed.
- RCS pressure is lowering.

In accordance with DB-OP-02513, "Pressurizer System Abnormal Operation," what is an action that is required to be taken?

- a. Immediately trip the reactor and go to DB-OP-02000, "RPS, SFAS, SFRCS Trip, or SG Tube Rupture."
- b. Reduce reactor power to  $\leq 72\%$  per DB-OP-02504, "Rapid Shutdown," and shutdown RCP 2-1.
- c. Reduce reactor power to  $\leq 72\%$  per DB-OP-02504, "Rapid Shutdown," and shutdown RCP 2-2.
- d. Shutdown the plant per either DB-OP-02504, "Rapid Shutdown," or DB-OP-06902, "Power Operations," and then stop RCPs 2-1 and RCPs 2-2 after the reactor is shutdown.

Answer:

c.

Reference:

DB-OP-02513

New

Higher

K/A Ability to determine and interpret the following as they apply to the Pressurizer Vapor Space Accident: PZR spray valve failure, using plant parameters.

Question # 078  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 000038A210

Question:

Given the following conditions:

- The plant was operating at 100% power with a small tube leak on SG 2.
- AFPT 2 was out of service.

A reactor trip then occurred.

SG 1 was isolated after the reactor trip due to an overcooling event.

- A SGTR then occurred on SG 2.
- Trickle Feed cooling using AFPT 1 was established to SG 1 and then SG 2 was isolated due to the SGTR.

(1) Compliance with Specific Rule 4, "Steam Generator Control," is (1) when utilizing Trickle feed Cooling.

- AFPT 1 then trips and can NOT be re-started.

(2) What action is required to be taken per DB-OP-02000?

- a. (1) required  
(2) Establish Trickle Feed cooling to SG 1 using the MDFP.
- b. (1) required  
(2) Establish MU/HPI Cooling.
- c. (1) not required  
(2) Establish Trickle Feed cooling to SG 1 using the MDFP.
- d. (1) not required  
(2) Establish MU/HPI Cooling.

Answer:

d.

Reference:

DB-OP-02000, Section 8.0

New

Higher

K/A Ability to determine or interpret the following as they apply to a SGTR: When to isolate one or more S/Gs.

Question # 079  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A B&W E05 2.4.6

Question:

Given the following conditions:

- A reactor trip from 100% power occurred.
- The crew entered DB-OP-02000, "RPS, SFAS, SFRCS Trip, or SG Tube Rupture."
- The crew has transitioned to Section 7.0, "Overcooling," of DB-OP-02000.
- SG pressure is lowering in BOTH SGs.
- SG 1 has been determined to be the SG with the most significant steam leak based on the SG pressure and level decrease.
- Local reports have determined that SG 2 pressure is lowering due to a stuck open Main Steam Safety Valve (MSSV) on the associated MS line.

What is the PREFERRED action to take for this plant condition based on Section 7.0, "Overcooling," of DB-OP-02000?

- a. Immediately isolate AFW flow to BOTH SGs, and Go to Attachment 4, "Initiate MU/HPI Cooling."
- b. Isolate AFW flow to SG 1, and when SG 1 boils dry, and if an overcooling condition still exists, then establish trickle feed cooling to SG 2.
- c. Isolate AFW flow to SG 1, and when SG 1 boils dry, and if an overcooling condition still exists, then isolate AFW flow to SG 2, and go to Attachment 4, "Initiate MU/HPI Cooling."
- d. Immediately establish trickle feed cooling to BOTH SGs, while observing Specific Rule 4, "Steam Generator Control."

Answer:

b.

Reference:

DB-OP-02000, Section 7.0

New

Higher

K/A Ability to determine operability and/or availability of safety related equipment.

Question # 080  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 000054 2.3.14

Question:

Given the following conditions:

- AFPT 1 was out of service.
- A reactor trip from 10% power occurred.
- SG startup levels are at 13%.
- SG pressures are at 900 psig.
- RCS Hot Leg temperatures are at 450°F due to an overcooling transient that occurred following the reactor trip.
- The running MFW Pump tripped, however both MFW Pumps are available.
- AFPT 2 just tripped and is not available.

Of the following, what is the PREFERRED method of restoring feedwater flow to the SGs per DB-OP-02000, Attachment 5, "Guidelines For Restoring Feedwater"?

- a. Using the MDFP to the FW header at 600 gpm.
- b. Using the SUFP at 300 gpm.
- c. Using a Main FW Pump at 900 gpm.
- d. Using the MDFP to the AFW header at 600 gpm.

Answer:

d.

Reference:

DB-OP-02000, Attachment 5

New

Higher

K/A Knowledge of low power/shutdown implications in accident (e.g., loss of coolant accident or loss of residual heat removal) mitigation strategies.

Question # 081  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 000056AA2.46

Question:

Given the following conditions:

- The plant was operating at 100% power with a small SG tube leak in SG 1.
- A reactor trip then occurred due a steam line break on SG 2 inside containment.
- The crew entered DB-OP-02000, "RPS, SFAS, SFRCS Trip, or SG Tube Rupture," and was performing Section 4.0, "Supplemental Actions," when a SGTR occurred on SG 1 followed by a loss of offsite power.
- RCS subcooling is 23°F.

As the HIGHEST priority, the crew is required to implement . . .

- a. Specific Rule 2, "Actions for Loss of Subcooling Margin."
- b. Specific Rule 6, "Power for C1 And D1 Buses or EDG Start."
- c. Section 7.0, "Overcooling."
- d. Section 8.0, "Steam Generator Tube Rupture."

Answer:

b.

Reference:

DB-OP-02000 Bases Document on Prioritization, DB-OP-02000, Specific Rule 6

New

Higher

K/A Ability to determine and interpret the following as they apply to the Loss of Offsite Power: That the ED/Gs have started automatically and that the bus tie breakers are closed.

Question # 082  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 000005A204

Question:

Given the following conditions:

- The plant was operating at 100% power.
  - Suddenly, the APIs indicate that one Control Rod has dropped into the core.
- (1) Which of the following alarms specified would provide a more definite indication of a dropped rod compared to another possible CRD malfunction?
- (2) What is the lowest level of permission required to recover a dropped rod?
- a. (1) TILT IMBALANCE ROD INS LIMITS (5-4-E).  
(2) Reactor Engineering Supervisor.
  - b. (1) CRD ASYMMETRIC ROD (5-2-E).  
(2) Reactor Engineering Supervisor.
  - c. (1) TILT IMBALANCE ROD INS LIMITS (5-4-E).  
(2) Plant Manager.
  - d. (1) CRD ASYMMETRIC ROD (5-2-E).  
(2) Plant Manager.

Answer:

c.

Reference:

DB-OP-02516, DB-OP-02005 (Alarm Windows 5-2-E and 5-4-E)

New

Higher

K/A Ability to determine and interpret the following as they apply to the Inoperable / Stuck Control Rod: Interpretation of computer in-core TC map for dropped rod location

Question # 083  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 000036A203

Question:

Given the following conditions:

- The plant is in Mode 6.
- Containment Purge is in operation and aligned to containment.
- Fuel is being removed from the reactor core.
- A high alarm is received on Containment Purge Exhaust Monitor RIM-5052A.

The INITIAL procedure which is expected to be utilized for this event is . . .

- a. Plant Services Alarm Panel 9 Annunciators.
- b. DB-OP-02509, "Containment Evacuation."
- c. DB-OP-02530, "Fuel Handling Accident."
- d. DB-OP-06503, "Containment Purge System Procedure."

Answer:

c.

Reference:

DB-OP-02530

Bank

Fundamental

K/A Ability to determine and interpret the following as they apply to the Fuel Handling Incidents: Occurrence of a fuel handling incident.

Question # 084  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 000068 2.4.25

Question:

An extremely serious fire in the Cable Spreading Room has required that the Control Room be evacuated.

- (1) Prior to leaving the Control Room, which RCPs are to be tripped?  
(2) Which procedure(s), of the following, is (are) to be used to mitigate the event?
- a. (1) Trip all 4 RCPs.  
(2) DB-OP-02519, "Serious Control Room Fire" ONLY.
  - b. (1) Trip RCPs 1-1 and 2-2 ONLY.  
(2) DB-OP-02519, "Serious Control Room Fire" ONLY.
  - c. (1) Trip all 4 RCPs.  
(2) DB-OP-02519, "Serious Control Room Fire" and DB-OP-02000, "RPS, SFAS, SFRCS Trip, or SG Tube Rupture."
  - d. (1) Trip RCPs 1-1 and 2-2 ONLY.  
(2) DB-OP-02519, "Serious Control Room Fire" and DB-OP-02000, "RPS, SFAS, SFRCS Trip, or SG Tube Rupture."

Answer:

b.

Reference:

DB-OP-02519

New

Fundamental

K/A Knowledge of fire protection procedures.

Question # 085  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A BW/A01 2.1.1

Question:

(1) provides guidance to the operator in the event of an unplanned generated power reduction in which the generator remains connected to the grid.

(2) is expected to be entered FIRST in the event of the generator disconnecting from the grid without a Reactor or turbine trip?

- a. (1) DB-OP-02520, "Load Rejection"  
(2) DB-OP-02520, "Load Rejection"
- b. (1) DB-OP-02520, "Load Rejection"  
(2) DB-OP-06311, "345 KV Switchyard No. 1 (Main) Transformer, No. 11 (Auxiliary) Transformer, and Startup Transformers (01 and 02)"
- c. (1) DB-OP-00000, "Conduct of Operations"  
(2) DB-OP-02520, "Load Rejection"
- d. (1) DB-OP-00000, "Conduct of Operations"  
(2) DB-OP-06311, "345 KV Switchyard No. 1 (Main) Transformer, No. 11 (Auxiliary) Transformer, and Startup Transformers (01 and 02)"

Answer:

c.

Reference:

DB-OP-00000

DB-OP-02520

Bank

Fundamental

K/A Knowledge of conduct of operations requirements.

Question # 086  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 005A203

Question:

Given the following conditions:

- New fuel is being loaded into the core
- The following Annunciator Alarms come in:
  - (1-4-D), BUS C1 VOLTAGE
  - (1-3-D), BUS C1 LOCKOUT
- FYI DH 2B, LPI/DH PUMP 1 OUTLET FLOW drops to zero

Which is the first procedural action required at this time?

- a. Address the loss of Decay Heat Pump 1 per DB-OP-02527, "Loss of Decay Heat Removal," Attachment 2, "Starting Decay Heat Pump 2."
- b. Address the loss of Bus C1 per DB-OP-02521, "Loss of AC Bus Power Sources."
- c. Evacuate containment per DB-OP-02527, "Loss of Decay Heat Removal."
- d. Suspend Core Alterations per DB-OP-02527, "Loss of Decay Heat Removal."

Answer:

d.

Reference:

DB-OP-02521, Loss of AC Bus Power, Revision 13

DB-OP-02527, Loss of Decay Heat Removal, Revision 12

New

Higher

K/A Ability to (a) predict the impacts of the following malfunctions or operations on the RHRS, and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: RHR pump/motor malfunction

Question # 087  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 026A207

Question:  
Given the following conditions:

- A LOCA has occurred.
- BWST level is 9 feet.
- The crew is preparing to transfer the suction of the LPI pumps to the emergency sump per Attachment 7, "Transferring LPI Suction to the Emergency Sump."

When transferring the suction of the LPI and CS pumps to the emergency sump, the CS Discharge Valves CS1530 and CS1531 (1) to ensure adequate CS pump NPSH.

(2) Following transfer of the LPI and CS pumps to the emergency sump, if the LPI or CS pumps have indications of fluctuating flows or fluctuating amps, what is an action that is taken associated with the CS pumps to mitigate the blockage degradation condition of the emergency sump?

- a. (1) must be manually throttled closed from full open to partially open  
(2) The CS Discharge Valves CS1530 and CS1531 are manually throttled further closed to decrease the required NPSH of the CS pumps.
- b. (1) are automatically throttled closed from full open to partially open  
(2) The CS Discharge Valves CS1530 and CS1531 are manually throttled further closed to decrease the required NPSH of the CS pumps.
- c. (1) must be manually throttled closed from full open to partially open  
(2) CS pump(s) are manually stopped, if possible, to decrease the required NPSH of the running pumps.
- d. (1) are automatically throttled closed from full open to partially open  
(2) CS pump(s) are manually stopped, if possible, to decrease the required NPSH of the running pumps.

Answer:

d.

Reference:

DB-OP-02000, Attachments 7 and 27, and SD-022A

New

Higher

K/A Ability to (a) predict the impacts of the following malfunctions or operations on the CSS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of containment spray pump suction when in recirculation mode, possibly caused by clogged sump screen, pump inlet high temperature.

Question # 088  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 059 2.1.20

Question:

Given the following conditions:

- The plant is at stable at 90% power.
  - ICS is in AUTO.
  
  - The following Annunciator Alarms are then received:
    - (4-5-C) LOOP 1 VS 2 COLD LEG AT HI
    - (12-3-A) SG 1 OPERATE LVL HI
  - SG 1 level is rising above that level expected for plant conditions.
- (1) What procedure would be entered FIRST for the above plant conditions?  
(2) What are initial actions expected for the plant conditions specified above?
- a. (1) DB-OP-02526, "Steam Generator Overfill"  
(2) Place BOTH Feedwater Loop Demands in HAND, and then, place SP7B, "Startup FW Control Valve," and SP-6B, "Main FW Control Valve," in HAND.
  
  - b. (1) DB-OP-02526, "Steam Generator Overfill"  
(2) Place SP7A, "Startup FW Control Valve," and SP-6A, "Main FW Control Valve," in HAND, and then, place BOTH Feedwater Loop Demands in HAND.
  
  - c. (1) DB-OP-06401, "Integrated Control System Operating Procedure"  
(2) Place BOTH Feedwater Loop Demands in HAND, and then, place SP7B, "Startup FW Control Valve," and SP-6B, "Main FW Control Valve," in HAND.
  
  - d. (1) DB-OP-06401, "Integrated Control System Operating Procedure"  
(2) Place SP7A, "Startup FW Control Valve," and SP-6A, "Main FW Control Valve," in HAND, and then, place BOTH Feedwater Loop Demands in HAND.

Answer:

a.

Reference:

DB-OP-02526

New

Higher

K/A Ability to interpret and execute procedure steps.

Question # 089  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 061 2.4.34

Question:  
Given the following conditions:

- A reactor trip from 100% power occurred.
- No AFW flow is available.
- AFPT 2 is out-of service and is not available.
- Attempts have been made to control AFPT 1 speed from the Control Room and the Auxiliary Shutdown Panel with no success.

The NEXT attempt to control AFPT 1 speed is expected to be locally (1) and the procedure to be used is (2)

- a. (1) by taking manual control of the AFPT 1 governor  
(2) an Attachment of DB-OP-02000, "RPS, SFAS, SFRCS Trip, or SG Tube Rupture."
- b. (1) by taking manual control of the AFPT 1 governor  
(2) a Subsection of DB-OP-06233, "Auxiliary Feedwater System."
- c. (1) by throttling the AFPT 1 Trip Throttle Valve as required  
(2) an Attachment of DB-OP-02000, "RPS, SFAS, SFRCS Trip, or SG Tube Rupture."
- d. (1) by throttling the AFPT 1 Trip Throttle Valve as required  
(2) a Subsection of DB-OP-06233, "Auxiliary Feedwater System."

Answer:

b.

Reference:

DB-OP-06233, Subsection 5.1

New

Fundamental

K/A Knowledge of RO tasks performed outside the main control room during an emergency and the resultant operational effects.

Question # 090  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 063A201

Question:

The plant is operating at 35% power when the following conditions occur:

- (1-5-F) DC PANEL VOLTAGE LO Annunciates
- The reactor does NOT trip
- The turbine trips

Which of the following are the appropriate actions for these conditions?

- a. Enter DB-0P-02537, LOSS OF D1P AND DAP, trip the reactor, and GO TO DB-OP-02000, RPS, SIFAS, SFRCS Trip, or SG Tube Rupture
- b. Enter DB-0P-02537, LOSS OF D1P AND DAP and initiate a rapid power reduction while referring to DB-OP-02504, Rapid Shutdown
- c. Enter DB-0P-02538, LOSS OF D2P AND DBP and GO TO DB-OP-02500, Turbine Trip
- d. Enter DB-0P-02538, LOSS OF D2P AND DBP, trip the **reactor**, and GO TO DB-OP-02000, RPS, SIFAS, SFRCS Trip, or SG Tube Rupture

Answer:

c.

Reference:

DB-0P-02538, LOSS OF D2P AND DBP, Revision 13

DB-0P-02537, LOSS OF D1P AND DAP, Revision 14

New

Higher

K/A Ability to (a) predict the impacts of the following malfunctions or operations on the DC electrical systems; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Ground

Question # 091  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 017A202

Question:

In the Severe Accident Region of Figure 2 of DB-OP-02000, the combination of incore T/C temperature and RCS pressure corresponds to a MINIMUM of (1) cladding temperature.

- (2) If the Severe Accident Region (SAR) is entered, what action is INITIALLY taken regarding the RCPs?
- a. (1) 1800°F  
(2) Start one RCP in each loop.
  - b. (1) 1800°F  
(2) Trip ALL running RCPs.
  - c. (1) 2200°F  
(2) Start one RCP in each loop.
  - d. (1) 2200°F  
(2) Trip ALL running RCPs.

Answer:

b.

Reference:

DB-OP-02000, Figure 2 and Section 9.0

New

Fundamental

K/A Ability to (a) predict the impacts of the following malfunctions or operations on the ITM system; and (b) based on those predictions, use procedures to correct, control or mitigate the consequences of those malfunctions or operations: Core damage

Question # 092  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 028 2.1.20

Question:

Given the following conditions:

- A large break LOCA has occurred.
- It has been determined that containment hydrogen control measures are required.
- Containment Spray actuated but then failed 24 hours ago.
- Containment pressure is at 35 psia.

In accordance with DB-OP-06502, "Containment H<sub>2</sub> Dilution and H<sub>2</sub> Purge System," what is the PREFERRED system(s) to be used for hydrogen control in containment for these plant conditions?

- a. Hydrogen Dilution System.
- b. Hydrogen Purge System ONLY.
- c. Hydrogen Recombiner ONLY.
- d. Hydrogen Purge System AND Hydrogen Recombiner concurrently.

Answer:

b.

Reference:

DB-OP-06502

New

Higher

K/A Ability to interpret and execute procedure steps.

Question # 093  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 034A203

Question:

The unit was in Mode 6 with the equipment hatch installed and fuel movement in progress.

- It was then discovered that HA 5430A, Fuel Handling Area Vent to EVS Damper, can not be opened because of a failed linkage.
- It will be 6 hours before the linkage can be repaired.
- HA 5430B, Fuel Handling Area Vent to EVS Damper is OPERABLE.

It was then discovered that the last bundle placed in the spent fuel pool was placed in the wrong location. Which of the following correctly describes the relocation of the misplaced fuel bundle?

The misplaced fuel bundle . . .

- a. must remain in the incorrect location until Station EVS is placed on the Spent Fuel Pool.
- b. must remain in the incorrect location until HA 5430A is repaired.
- c. can be re-located after HA 5430B is verified closed.
- d. can be relocated immediately.

Answer:

d.

Reference:

76646; OPS-GOP-439-02K: Failure of HV5430A ITS

MODIFIED

HIGHER

K/A Ability to (a) predict the impacts of the following malfunctions or operations on the Fuel Handling System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Mispositioned fuel element

Question # 094  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 2.1.20

Question:

During implementation of an Abnormal Procedure, what is REQUIRED to allow a deviation from a step sequence?

- a. The Shift Manager has concurred with the deviation.
- b. A Condition Report is written prior to taking the actions.
- c. The reason for the deviation is noted in a copy of the procedure.
- d. A Peer Check of the actions is conducted by any licensed operator.

Answer:

a.

Reference:

DB-OP-01003, Step 6.1.5

Bank

Fundamental

K/A Ability to interpret and execute procedure steps.

Question # 095  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 2.1.40

Question:

According to Technical Requirements Manual (TRM) 8.9.1, "Communications," direct communications shall be maintained between the control room and personnel at the refueling station during movement of . . .

- a. heavy loads within the Fuel Building.
- b. irradiated fuel assemblies within the SFP.
- c. irradiated fuel assemblies within containment .
- d. fuel assemblies within the reactor pressure vessel ONLY.

Answer:

c.

Reference:

Technical Requirements Manual (TRM) 8.9.1, "Communications."

Bank

Fundamental

K/A Knowledge of refueling administrative requirements.

Question # 096  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 2.2.19

Question:

According to NOP-WM-1001, "Order Planning Process," an Operations SRO is responsible for which ONE of the following in regards to Order processing?

- a. Verifying proper RWPs are filled out.
- b. Assuring proper job priorities are assigned.
- c. Planning and scheduling of maintenance work activities.
- d. Determine need for reactivity impact review by Reactor Engineering.

Answer:

d.

Reference:

NOP-WM-1001

Modified

Fundamental

K/A Knowledge of maintenance work order requirements.

Question # 097  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 2.2.22

Question:

The following plant conditions exist:

- The plant is in Mode 1.
- A power ascension is in progress following a refueling outage.
- Thermal power is currently 80% RTP and four reactor coolant pumps are running.
- All rods are within alignment and insertion limits.
- QPT is 8.25 as indicated by the Incore Detector System.
- API is (+) 24 as indicated by the Excore Detector System.

Which one of the following describes the tech spec actions for these plant conditions?

- a. Reactor power must NOT exceed 92% RTP, but can be maintained above 80% RTP.
- b. Reactor power must NOT exceed 80% RTP, but can be maintained above 74% RTP.
- c. Reactor power must be lowered to  $\leq 74\%$  RTP, but does NOT have to be lowered to  $<72\%$  RTP.
- d. Reactor power must be lowered to  $\leq 72\%$  RTP, but does NOT have to be lowered to  $<60\%$  RTP.

Answer:

c.

Reference:

76231; OPS-GOP-431-K

ITS; QPT/API Actions

BANK

HIGHER

K/A Knowledge of limiting conditions for operations and safety limits.

Question # 098  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 2.3.6

Question:

WGDT #2 is isolated for release. RE1822A and RE1822B, "Waste Gas System Radiation Monitors," are BOTH inoperable.

Which ONE of the following is an action which must be performed to release WGDT #2.

- a. Permission must be obtained from the Director, Site Operations.
- b. Two independent verifications of the release discharge valving must be performed.
- c. Portable radiation monitors must be installed to monitor the release.
- d. Grab samples must be performed once per hour during the release.

Answer:

b.

Reference:

DB-OP-0312, Precaution 2.1.3.a

Bank

Fundamental

K/A Ability to approve release permits.

Question # 099  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 2.4.6

Question:  
Given the following conditions:

- A LOCA has occurred.
- The reactor was shutdown.
- The crew transitioned to DB-OP-02000, Section 5.0, "Lack of Adequate Subcooling Margin."
- The crew then transitioned to DB-OP-02000, Section 11.0, "RCS Saturated with SGs Removing Heat Cooldown."

Present plant conditions are:

- LPI pump 1 is not available, since it tripped on overcurrent during the event.
- BWST level is 8 feet.
- The suctions for the LPI pumps and the CS pumps have been transferred to the emergency sump.
- Both HPI pumps are available, but are stopped.
- RCS subcooling margin is now 15°F.
- Average incore T/C temperature is 320°F.
- The crew is at the step in Section 11.0, "RCS Saturated with SGs Removing Heat Cooldown," to determine if Long Term Boron Dilution is required to be established at this time.

- (1) Is Long Term Boron Dilution required to be established at this time?  
(2) If NO, when would Long Term Boron Dilution be required to be established?  
If YES, what method of Long Term Boron Dilution is required to be established?
- a. (1) No  
(2) Required only if RCS subcooling lowers to saturation (0°F).
  - b. (1) Yes  
(2) Use the Normal Method involving backflow through valves DH 11 and DH12.
  - c. (1) No  
(2) Required when average incore T/C temperature is lowered to less than 313°F.
  - d. (1) Yes  
(2) Use the Alternate Method using HPI through the Auxiliary Pressurizer Spray Line.

Answer:

d.

Reference:

DB-OP-02000, Attachment 12

New  
Higher  
K/A Knowledge of EOP mitigation strategies.

Question # 100  
Exam Date 2009/07/13  
Facility Davis Besse  
Exam Level S  
K/A 2.4.30

Question:

An Alert has been declared. Security was notified to activate CANS. Ten minutes later the Shift Manager noted that his pager had not activated. Which of the following is the first alternative method available to the Shift Manager to activate the pager system on the proper event code?

- a. Manual activation of the group page.
- b. Activation of the Backup CANS.
- c. Manual activation of Emergency Notification System (ENS).
- d. individual contact of emergency responders.

Answer:

b.

Reference:

OPS-GOP-603-04K (38755, ORQ-2061) All methods to CANS

BANK

FUNDAMENTAL

K/A Knowledge of events related to system operation/status that must be reported to internal organizations or external agencies, such as the State, the NRC, or the transmission system operator.

\*\*\*\*\* END OF EXAMINATION \*\*\*\*\*