INITIAL SUBMITTAL OF THE WRITTEN EXAMINATION

FOR THE DAVIS-BESSE EXAMINATION THE WEEK OF OCTOBER 2, 2000

U.S. Nuclear Regulatory Commission
Site-Specific
Written Examination

Applicant Information

Name:		Region:	III
Date:	10/2/2000	Facility/Unit:	Davis-Besse NPS
License Level:	SRO	Reactor Type: BW	
Start Time:		Finish Time:	

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. The passing grade requires a final grade of at least 80.00 percent. Examination papers will be collected five hours after the examination starts.

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.

_____
Applicant's Signature

Results

Examination Value	100	Points
Applicant's Score	_____	Points
Applicant's Grade	_____	Percent

QUESTION: 1

The following plant conditions exist:

- DB-OP-06912, Approach to Criticality, is in progress.
- Nuclear Instruments 1 and 2 read approximately 100 cps.
- Rod index is currently 50.

You have directed an RO to withdraw the regulating control rods to an index of 75.

The RO informs you that he withdrew the regulating control rods to an index of 75 and has released insert/withdraw switch, but the regulating control rods have continued to withdraw. The current rod index is 80 and rising.

Which one of the following is the correct response to this event?

a. Trip the reactor and initiate AFW and isolation of both steam generators.

   Enter T.S. 3.1.3.1 , Group Height – Safety and Regulating Rod Groups.

b. Depress the "Rod Stop" pushbutton and hold until the affected group can be transferred to the auxiliary power supply.

   Enter T.S. 3.1.3.1 , Group Height – Safety and Regulating Rod Groups.

c. Trip the reactor and initiate AFW and isolation of both steam generators.

   Declare an Unusual Event.

d. Depress the "Rod Stop" pushbutton and hold until the affected group can be transferred to the auxiliary power supply.

   Declare an Unusual Event.

These are in the same order as the packages with cover sheets. The Group and Tier is in the lower left corner. Key is at the end.

QUESTION: 2

The following plant conditions exist:

- Current reactor power is 85% with a power increase in progress.
- Rod index is 265.
- All four power range nuclear instruments read within ± 1%.

The crew observes the following conditions:

- A loss of Control Room annunciators.
- NI 5 drops to 81%.
- NIs 6, 7, 8 drop to 84%.
- A 1°F cold leg differential temperature develops.

Which one of the following is the cause of these symptoms and proper corrective actions?

a. A sheared reactor coolant pump shaft.

Reduce power to less than 75% and reduce high flux trip setpoint.

b. A dropped control rod.

Reduce power to less than 60% and verify shutdown margin.

c. A sheared reactor coolant pump shaft.

Reduce power to less than 75% and manually re-ratio feedwater.

d. A dropped control rod.

Reduce power to less than 60% and verify tilt limits.

QUESTION: 3

The following events have occurred:

- Control Rod Group 3 was being exercised in accordance with DB-SC-03272, Control Rod Exercising Test.
- At 1200, while the RO was inserting Group 3, Rod 3-1 dropped to 91% API with the other three rods in Group 3 at 98% API.
- At 1245, I&T has performed troubleshooting on Control Rod 3-1 and verified API is indicating properly.

Which one of the following is the appropriate action to take?

a. Transfer Control Rods 3-2, 3-3, and 3-4 back to the normal power supply and withdraw Control Rod 3-1 back to the group average to determine if it is movable.

b. Transfer Control Rod 3-1 to the normal power supply and align the other three control rods in Group 3 to Control Rod 3-1 to prevent an excessive core tilt problem.

c. Declare Control Rod 3-1 inoperable from the time Control Rod 3-1 dropped to 91% due to asymmetry and reduce reactor power to 60%.

d. Declare all the control rods in Group 3 inoperable from the time Control Rod 3-1 dropped to 91% due to safety rods not fully withdrawn and determine shutdown margin.

QUESTION: 4

The following plant conditions exist:

- An SFAS Level 3 actuation has occurred.
- LPI Pump 1 failed to start.
- The RO is performing the actions necessary to align LPI Pump 2 to both injection lines.

The RO reports that DH2733, DH PUMP 1 SUCTION FROM BWST OR EMER SUMP, has not received closed indication. He has tried replacing the bulb, but with no success.

The Assistant Shift Supervisor has directed the RO to continue with the lineup.

Which one of the following will be the result when the RO has completed the lineup?

a. LPI Pump 2 will experience pump runout.

b. RC drain tank will increase in level.

c. Backflow into the BWST will rob cooling to the core.

d. LPI Pump 1 will rotate backwards providing improper bearing lubrication.

QUESTION: 5

The following plant conditions exist:

- Reactor power is 100%.
- CC1411B, CCW TO CTMT MOTOR OPERATED ISO, has failed closed and will not open.
- RCS pressure is 2160 psig and stable.
- The station computer displays the following information:

	Seal Cavity Pressure 2nd	Seal Cavity Pressure 3rd	Seal Return Temperature
RCP 1-1	1440	720	168°
RCP 1-2	1605	470	166°
RCP 2-1	1510	50	169°
RCP 2-2	1385	610	172°

Which one of the following is the appropriate response to this event?

a. Maintain reactor power and continue efforts to open CC1411B.

b. Commence a rapid shutdown to less than 75% and trip RCP 2-1.

c. Trip the reactor and trip RCP 2-1.

d. Trip the reactor and trip all RCPs.

QUESTION: 6

The following plant conditions exist:

- Large break LOCA has occurred.
- SFAS Levels 1 through 4 have actuated.

A sudden change in primary conditions results in a rise in RCS pressure to 410 psig and incore thermocouple temperature to rise to 891°F. Chemistry results indicate RCS I-131 level is 351 μCi/gram.

Which one of the following is the appropriate action to be taken?

a. With permission from the SAM Decision Maker, bump start each RCP and recommend a General Emergency be declared.

b. With permission from the Emergency Director, bump start both RCPs in the loop with the highest SG level and recommend a General Emergency be declared.

c. With permission from the Emergency Director, bump start each RCP and recommend a Site Area Emergency be declared.

d. With permission from the SAM Decision Maker, bump start both RCPs in the loop with the highest SG level and recommend a Site Area Emergency be declared.

QUESTION: 7

Given the following conditions:

- The reactor has tripped.
- Subcooling margin is 0°F
- No HPI is available
- RCS pressure is 962 psig
- Incore thermocouple temperature is 538°F
- Tcold is 516°F
- Thot is 543°F
- OTSG pressure is 799 psig

Which one of the following represents the present conditions?

a. Single phase natural circulation

b. Forced circulation

c. Boiler-condenser cooling

d. Inadequate core cooling

QUESTION: 8

Immediately following a reactor trip, the following conditions exist:

- CRD trip breakers open
- NI power is 1×10^{-6}
- Control Rod 3-1 100% withdrawn
- Control Rod 3-3 100% withdrawn

Which one of the following identifies the procedure flowpath for this situation?

a. Immediately enter DB-OP-02510, Loss of Reactor Coolant System Boron, and initiate immediate boration per Step 4.1.2.

b. Immediately enter DB-OP-02516, CRD Malfunctions, and attempt to insert Safety Group 3.

c. Enter DB-OP-02000, RPS, SFAS, SFRCS, or SG Tube Rupture; and at Step 3.2, Reactivity Control, momentarily de-energize E2 and F2.

d. Enter DB-OP-02000, RPS, SFAS, SFRCS, or SG Tube Rupture; and at Step 4.1, commence boration to achieve acceptable shutdown margin.

QUESTION: 9

The following plant conditions exist:

- The plant is in Mode 1
- Makeup Pump 1 in service
- The CCW surge tank has experienced a loss of level due to a leak in the Aux. Building.
- CCW surge tank levels are as follows:
  - Side one is steady at 33 inches.
  - Side two is at 30 inches and dropping

Which one of the following depicts the condition of the CCW System after this event has occurred as described?

Assume supplemental actions have been taken as directed in the governing abnormal procedure.

a.
- The Aux. Building header is isolated at CC 1495.
- The CTMT header is isolated at CC 1411A and 1411B.
- Both CRD booster pump suction valves (CC 1328 and CC 1338) are open.

b.
- CCW Pumps 1-1, 1-2, and 1-3 have tripped due to low level in the CCW surge.

c.
- CCW Pump 1-1 is stopped and CCW Pump 1-2 running..
- The plant is stable on natural circulation.

d.
- All non-essential CCW headers have isolated.
- BOTH CRD booster pumps have automatically tripped.
- The plant is stable on natural circulation flow.

QUESTION: 10

Which one of the following is the reason that quick operator response to an ATWS is critical?

a. To prevent the loss of primary to secondary heat transfer.

b. To prevent exceeding 17% fuel cladding oxidation.

c. To prevent challenges to the pressurizer code safeties.

d. To prevent exceeding a Tech. Spec. safety limit.

QUESTION: 11

The following plant conditions exist:

- The reactor has tripped.
- SG 2 was isolated by the SFRCS low pressure trip and indicates 0 psig.
- A main steam safety valve on SG 1 is leaking.
- RCS cooldown rate due to the leakage is 45°F per hour.

Which one of the following is the correct operator response?

a. Initiate makeup/HPI cooling.

b. Continue cooldown with AFW feeding SG 1.

c. Continue cooldown with AFW feeding both SGs.

d. Isolate AFW to both SGs.

QUESTION: 12

Which one of the following is the reason for invoking PTS (Pressurized Thermal Shock) limits on the RCS? High thermal stress on the:

a. OTSG tubes at the lower tube sheet.

b. fuel pins in the RCS at the lower end of the fuel assembly.

c. pressurizer surge line connection to the RCS.

d. reactor vessel wall at the area of the HPI injection water.

QUESTION: 13

The plant has been operating at 44% RTP (390 MWe). The following conditions have been noted:

- CTRM annunciators actuate:
  - HP CNDSR PRESS HI (15-1-F)
  - LP CNDSR PRESS HI (15-2-F)
- The mechanical hogger has automatically started.
- PR 530, Condenser Pressure, indicates 5.4" HgA and rising.

Power is reduced to 28% RTP (240 MWe) and condenser pressure is still rising (5.6 in HgA).

Which one of the following statements is correct?

a. Trip the turbine and go to DB-OP-02000, RPS, SFAS, SFRCS Trip or SG Tube Rupture.

b. Trip the turbine and refer to DB-OP-02500, Turbine Trip.

c. Trip the turbine and go to DB-OP-06910, Trip Recovery.

d. Continue with the plant shutdown and refer to DB-OP-02504, Rapid Shutdown.

QUESTION: 14

During a loss of both 4160 VAC essential busses, selective battery load shedding must be initiated approximately _____ minutes from the start of the event and must be completed within _____ minutes.

Selective battery load shedding conserves battery energy for _____.

a. 30; 60; instrumentation

b. 30; 60; HPI lube oil pumps

c. 20; 30; instrumentation

d. 20; 30; HPI lube oil pumps

QUESTION: 15

The following plant conditions exist:

- Reactor power is 100%.
- Station annunciators have lost power.

The RO reports that there are no indicating lights lit on any of the ICS stations.

Which one of the following is the required response and the reason for the response?

a. Trip both main feedwater pumps.

Prevents overfeeding the steam generators due to main and startup feedwater valves failing full open.

b. Trip both main feedwater pumps.

Prevents overfeeding the steam generators due to main and startup feedwater valves failing 50% open.

c. Initiate AFW and isolate both steam generators.

Prevents overfeeding the steam generators due to main and startup feedwater valves failing 50% open.

d. Initiate AFW and isolate both steam generators.

Prevents overfeeding the steam generators due to main and startup feedwater valves failing full open.

QUESTION: 16

The following plant conditions exist:

- The plant is at 80.5% RTP.
- A release of the MWMT to the collection box is in progress.
- System Engineering notifies the Shift Supervisor that DB-MI-03439, Channel Functional Test of 10A-ISF3611, Dilution Pump Discharge Flow, had failed its acceptance criteria when I&T ran the test last week.

The Shift Supervisor shall _____.

a. until Radiation Protection reapproves the release, stop the release and declare F201 inoperable

b. declare F201 inoperable and continue the release and estimate flowrate once per four hours

c. stop the release until Chemistry can perform grab samples at collection box

d. write a Condition Report on F201, continue the release, and reduce the release rate by a factor of 10

QUESTION: 17

The following plant conditions exist:

- Reactor power is 100%.
- CCW Pump 1 and Makeup Pump 2 are in service.
- SW Pumps 1 and 2 are in service.

The following events have occurred:

- A large break LOCA has occurred, concurrent with a loss of off-site power.
- EDG 1 has tripped on overspeed.
- The source breaker F12A tripped open when EDG 2 loaded on D1 bus.

Which one of the following is correct concerning the Service Water (SW) System?

a. Full SW flow will not be available to ECCS equipment due to secondary loads failing to isolate.

b. Backup cooling will not be available to secondary loads due to CT 2955, TPCW HX SUPPLY FROM CIRC WTR, failing to open.

c. Full SW flow will not be available to CAC 2 due to the spare CAC outlet valve failing to isolate.

d. Cooling water will not be available to ECCS room coolers due to the outlet valve failing to open.

QUESTION: 18

A fire in the cabinet area of the Control Room has forced evacuation of the Control Room.

In which one of the following set of conditions will the plant be stabilized after the operators have implemented the appropriate procedure?

a.
- Forced RCS flow
- AFW feeding both OTSGs
- Both AVVs controlled automatically

b.
- Natural circulation RCS flow
- AFW feeding one OTSG
- One AVV being controlled automatically

c.
- Forced RCS flow
- MFW feeding both OTSGs
- One AVV being controlled locally

d.
- Natural circulation RCS flow
- AFW feeding one OTSG
- One AVV controlled locally

QUESTION: 19

The CTRM crew was forced to evacuate the CTRM due to a highly toxic environment. The Immediate Actions of DB-OP-02508, CTRM Evacuation, have NOT been carried out.

Local SFRCS isolation trip shall be accomplished by _____.

a. tripping all four RCPs at the switchgear breakers

b. manually starting both AFPs by isolating air to their steam admission valves

c. tripping both MFPTs at the MFPT local control panel

d. deenergizing the AFP discharge valve solenoids

QUESTION: 20

The following plant conditions exist:

- Mode 3.
- Steam Generator 1 has a ~450 gpm tube rupture.
- Main Steam Safety Valve, SP17A2, is failed open.
- RCS pressure is 980 psig.
- RCS hot leg temperature is 518°F.

Which one of the following is the required response?

a. Continue the RCS cooldown using Steam Generator 1.

b. Initiate MU/HPI cooling and isolate Steam Generator 1.

c. Continue RCS cooldown by trickle feeding Steam Generator 2 and isolate Steam Generator 1.

d. Initiate MU/HPI cooling and trickle feed Steam Generator 2.

QUESTION: 21

Section 9.0, Inadequate Core Cooling, of DB-OP-02000 directs the operator to, "Open the RCS and PZR high point vents" when incore temperatures have reached Region 3.

Which one of the following is the bases for performing this step?

Opening the RCS and PZR high point vents:

a. provides a vent path for any non-condensable gases that may be restricting RCS – steam generator heat transfer.

b. allows better control of reactor coolant pressure while maintaining it 40 to 60 psig above steam generator pressure.

c. provides an additional flowpath to assist MU/HPI cooling in controlling/reducing core temperatures.

d. reduces Reactor Coolant System pressure allowing increased flowrates from all running injection systems.

QUESTION: 22

The following plant conditions exist:

- Reactor is tripped
- Subcooling margin meters indicate 0°F
- EDG1 has tripped on overspeed and cannot be reset.
- D1 bus has experienced a lockout
- SBODG has failed to start

Which one of the following is the correct response to this event?

a. Maintain plant conditions and continue effort to restore C1 bus.

b. Begin a cooldown at < 100°F/hr. to Mode 5.

c. Fully open both Atmospheric Vent Valves.

d. Open the PORV until the Core Flood Tanks start to discharge.

QUESTION: 23

Tech. Spec. 3.4.8, Specific Activity, allows the plant to operate at greater than 1.0 μc/gram DEI but within the acceptable operation region of Figure 3.4-1 up to 48 hours because of _____.

a. still being within the limits on site boundary dose rate with an assumed SGTL rate of 150 gpd

b. the two-hour dose rate at the site boundary not exceeding 10 times the 10 CFR 100 limits

c. the recognized effects of iodine spiking following a power change

d. the very low probability of any radioactive release in the event of a SGTL of 150 gpd

QUESTION: 24

Which one of the following describes how pressurizer level is controlled following a loss of NNI-X DC power?

a. Manual operation of makeup flow control valve (MU32) from the Control Room.

b. Manual operation of alternate makeup injection line valve (MU6419) from the Control Room.

c. Local manual operation of makeup flow control valve (MU32).

d. Local manual operation of alternate makeup injection line valve (MU6419).

QUESTION: 25

The following plant conditions exist:

- The reactor automatically tripped from 95% power.
- All expected automatic and operator actions have occurred.
- The Control Room SRO is directing trip recovery actions in accordance with DB-OP-06910, Trip Recovery.

Placing the turbine bypass valves in hand prior to resetting the CRD breakers will _____.

a. maintain the required shutdown margin above the Tech. Spec. minimum

b. prevent pressurizer level from increasing off-scale high when the CRD breakers are reset

c. prevent an unnecessary and uncontrolled Reactor Coolant System cooldown

d. ensure steam generator pressure remains below the main steam safety valve setpoints

QUESTION: 26

Which one of the following conditions is an indication of a malfunction of the unit load demand subsystem of the ICS?

a. Reactor power is at 70% with three RC pumps in operation.

b. Reactor power is at 50% with one FW pump running.

c. Reactor power is at 70% with deaerator tank level at 4.2 ft.

d. Reactor power is at 70% with FW pump discharge pressure at 1450 psig.

QUESTION: 27

The following plant conditions exist:

- A plant startup is in progress.
- Reactor power is 18%.
- A turbine trip occurs.
- All equipment functioned properly.

At the completion of DB-OP-02500, Turbine Trip, how does each one of the following parameters change between pre-turbine trip and post-turbine trip stable conditions?

a. RCS temperature decreases, Rx power decreases, SG level decreases, SG pressure decreases

b. RCS temperature remains constant, Rx power remains constant, SG level decreases, SG pressure decreases

c. RCS temperature decreases, Rx power decreases, SG level remains constant, SG pressure remains constant

d. RCS temperature remains constant, Rx power remains constant, SG level remains constant, SG pressure remains constant

QUESTION: 28

Which one of the following provides the most credible indication that the power operated relief valve (PORV) is leaking?

a. Pressurizer level is decreasing with stable Reactor Coolant System pressure AND the red indicating light on the PORV switch (HIS RC2-6) is illuminated.

b. Reactor Coolant System pressure is decreasing with stable pressurizer level AND the red indicating light on the PORV switch (HIS RC2-6) is illuminated.

c. Reactor Coolant System pressure is decreasing with stable pressurizer level AND annunciator alarm 4-1-D, PZR RFL VLV OPEN, is alarming.

d. Pressurizer level is decreasing with stable Reactor Coolant System pressure AND annunciator alarm 4-1-D, PZR RFL VLV OPEN, is alarming.

QUESTION: 29

The following plant conditions exist:

- The plant is operating at 100% power.
- RCS leak rate is determined to be 1.5 gpm.
- This leakage is quickly identified as coming from a weld defect in a Loop 2 RTD penetration.

Which one of the following actions is required as a result of these conditions?

a. No actions required as long as leakage does not exceed 10 gpm.

b. Reduce leakage to less than 1 gpm within 4 hours or be in Mode 3 within the next 6 hours and Mode 5 within the following 30 hours.

c. Reduce leakage to less than 1 gpm within 4 hours or be in Mode 4 within the next 6 hours, and Mode 5 within the subsequent 30 hours.

d. Be in Mode 3 within 6 hours and Mode 5 within the following 30 hours.

QUESTION: 30

The following plant conditions exist:

- A normal plant shutdown and cooldown is in progress in accordance with DB-OP-06903, Plant Shutdown and Cooldown.
- Reactor Coolant System pressure is 1600 psig.
- Reactor Coolant System temperature is 480°F.
- A loss of coolant accident has lead to a loss of subcooling margin.
- In accordance with DB-OP-02000, RPS, SFAS, SFRCS Trip or SGTR, Specific Rule 1, the Reactor Operator has tripped all reactor coolant pumps.

Which of the following is correct concerning actuation of high pressure injection (HPI) and auxiliary feedwater (AFW)?

a. HPI will have to be manually actuated, AFW will have to be manually actuated.

b. HPI will automatically actuate, AFW will have to be manually actuated.

c. HPI will have to be manually actuated, AFW will automatically actuate.

d. HPI will automatically actuate, AFW will automatically actuate.

QUESTION: 31

The following plant conditions exist:

- Reactor power is 72%
- CCW flow is normal
- RCPs 1-1, 1-2, AND 2-2 are in operation
- RCP 1-1 computer alarm lower bearing temperature has exceeded the alarm setpoint and is increasing with actual temperature at 200°F.

Which one of the following actions is correct in accordance with DB-OP-02515, Reactor Coolant Pump and Motor Abnormal Operation?

a. Trip RCP 1-1 and then trip the reactor.

b. Reduce power to 28% and then trip RCP 1-1.

c. Reduce power less than 50% and then trip RCP 1-1.

d. Trip the reactor and then trip RCP 1-1.

QUESTION: 32

The following plant conditions exist:

- The plant is in Mode 5.
- The Reactor Coolant System is drained to 18 inches to install nozzle dams.
- DH Loop 1 is in service.
- The packing is inadvertently removed from DH 11, DH Normal Suction Isolation, creating a loss of RCS inventory.
- DB-OP-02527, Loss of Decay Heat Removal, directs the operator to:

a. Stop Decay Heat Pump 1 and close DH 12, DH Normal Suction Isolation.

b. Stop Decay Heat Pump 1 and close DH 14B, DH CLR 1 Outlet.

c. Start Decay Heat Pump 2 and throttle open DH 14A, DH CLR 2 Outlet.

d. Start Decay Heat Pump 2 and throttle open DH 1A, DH Pump 2 Discharge to RCS.

QUESTION: 33

The following plant conditions exist:

- Reactor power is 100%.
- RCS pressure is 2100 psig and decreasing.
- Pressurizer level is 220 inches and constant.
- Pressurizer temperature is 641°F and decreasing.
- Makeup tank level is constant.

Which one of the following is the cause for these indications?

a. A leak in the makeup pump discharge line is occurring.

b. A leak in the letdown line is occurring.

c. MU 32, Pressurizer Level Control Valve, is stuck open.

d. RC 2, Pressurizer Spray Valve, is stuck open.

QUESTION: 34

The following plant conditions exist:

- A reactor startup is in progress.
- The Reactor Operator reports source range nuclear instruments NI 1 indicates 55 counts per second and NI 2 indicates 25 counts per second.
- Both channels of gamma-metrics source range indicate 55 counts per second.

Which one of the following is correct concerning Tech. Spec. actions?

a. The startup may continue; no action required.

b. The startup may continue, but do not exceed 10^{-10} amps on the intermediate range nuclear instruments.

c. The startup may continue, but do not exceed 5% on the power range nuclear instruments.

d. The startup may continue provided RPS Channel 1 is manually bypassed.

QUESTION: 35

The following plant conditions exist:

- Tube leak has occurred in Steam Generator 1.
- Steam Generator 1 has been isolated.
- A cooldown on natural circulation is in progress.
- Tc of RCS Loop 2 is 300°F.
- The average shell temperature of the Steam Generator 1 is 325°F.

Which one of the following describes the potential consequences of maintaining this same ΔT between the steam generator and Tc while depressurizing the RCS?

a. Steam Generator 1 tubes will be in tension and may enlarge the leak size.

b. Reverse flow in RCS Loop 1 may interfere with natural circulation.

c. Void formation may occur in RCS Loop 1.

d. Steam Generator 1 tubes will be in compression and may enlarge the leak size.

QUESTION: 36

The following plant conditions exist:

- A steam generator tube rupture has occurred following a loss of off-site power.
- All systems performed as expected.
- The ruptured steam generator indicates 100 inches.

In accordance with DB-OP-02000, RPS, SFAS, SFRCS Trip, or SG Tube Rupture, what is the maximum cooldown rate allowed to reach the minimum RCS temperature to isolate the ruptured steam generator?

a. 50°F/hour to 500°F Thot

b. 100°F/hour to 520°F Thot

c. 50°F/hour to 520°F Thot

d. 100°F/hour to 500°F Thot

QUESTION: 37

The following plant conditions exist:

- A loss of all feedwater has occurred.
- Makeup/HPI cooling has been established in accordance with Attachment 4 of DB-OP-02000, RPS, SFAS, SFRCS Trip, or SG Tube Rupture.
- The startup feed pump has been lined up and is ready to be started.

Which one of the following would PREVENT the startup feed pump from being used as a source of feedwater to a steam generator?

a. Steam generator average shell temperature is 60°F hotter than RCS temperature.

b. Both steam generators indicate less than 16 inches on the startup level range indication.

c. SP6B, SG1 Main FW Line Control Valve, is failed open.

d. Turbine bypass valves are not available due to a loss of condenser vacuum.

QUESTION: 38

The following plant conditions exist:

- The plant has experienced a loss of all feedwater event.
- Subcooling margin (SCM) is 10°F.
- MU/HPI cooling is providing RCS cooling.
- AFW has been regained and both SGs are at the correct levels.
- Primary to secondary heat transfer does not exist.

Which one of the following actions is attempted FIRST to restore primary to secondary heat transfer?

a. Begin restoration from MU/HPI cooling by closing the PORV.

b. Bump start RCPs to induce SG heat transfer.

c. Increase SG levels to raise the secondary heat sink.

d. Lower SG pressures to reduce SG saturation temperature.

QUESTION: 39

The following plant conditions exist:

- The plant has tripped from 80% power due to a loss of D2P and DBP busses.
- Bus B and Bus D1 have experienced UV (0 VAC on both).

Which one of the following describes the effect of this casualty on EDG 2? (Control power for EDG 2 is from Breaker D2P09.)

a. EDG 2 will start automatically but AD101, EDG 2 Output Breaker, will not close.

b. EDG 2 will not start due to air start valves DA 1148A and DA 1148B failing closed.

c. EDG 2 will not start due to CCW Pump 2 not running.

d. EDG 2 will start automatically and AD101, EDG 2 Output Breaker, will close.

QUESTION: 40

The following plant conditions exist:

- The reactor was manually tripped.
- Due to a malfunctioning instrument air dryer, SFRCS was manually actuated.
- No other operator actions have been performed.

Which one of the following describes the effect on MU32, Pressurizer Level Control Valve, and MU19, RCP Seal Injection Flow Control, when air pressure is restored?

a. MU32 opens, MU19 throttles in the closed direction.

b. MU32 opens, MU 19 opens.

c. MU32 throttles in the closed direction, MU19 throttles in the closed direction.

d. MU32 throttles in the closed direction, MU19 opens.

QUESTION: 41

The following plant conditions exist:

- Reactor is at 100% power.
- Pressurizer level is 220 inches on the chart recorder.

The pressurizer level on the chart recorder has dropped to 70 inches indicated over 5 minutes.

Unidentified leakage has risen by 0.5 gpm.

Which one of the following statements is correct concerning the decrease in pressurizer level?

a. A leak on the pressurizer level reference leg has occurred.

b. A leak on the pressurizer level sensing leg has occurred.

c. Pressurizer level temperature compensation has failed low.

d. Pressurizer level temperature compensation has failed high.

QUESTION: 42

Specific Rule 4, PTS Requirements, would need to be invoked in which one of the following conditions if a loss of offsite power occurs:

a. 200 gpm RCS leak

b. An overcooling with a dry SG

c. An SG tube rupture of 300 gpm

d. A 140 gpm RCS leak with a loss of 4.16 KV Bus C-1

QUESTION: 43

The plant is at 100% power. The air start valves for EDG 1 have been closed to allow for barring of the EDG.

Which one of the following is required once the air start valves are closed?

a. Verify the remaining EDG and one off-site AC circuit operable.

b. Verify any two of the AC power sources operable.

c. Verify one of the off-site AC circuits and one 4.16 KV bus tie transformer.

d. Verify the remaining EDG and two off-site AC circuits operable.

QUESTION: 44

The following plant conditions exist:

- A reactor startup is in progress
- Group 4 rods are being withdrawn
- Indication for Rod 4-1 is erratic
- An "asymmetry fault" alarm is illuminated on the rod control panel

Which one of the following is the cause for the rod alarm?

There is erratic indication from Group 4, Rod 1 . . .

a. relative position indication (RPI) causing a loss of "all safety rods out" indication.

b. absolute position indication (API) causing a 6.5% (9 inch) asymmetric rod fault.

c. relative position indication (RPI) causing a 6.5% (9 inch) asymmetric rod fault.

d. absolute position indication (API) causing a loss of "all safety rods out" indication.

QUESTION: 45

The following plant conditions exist:

- Reactor power is 82% with a power increase in progress
- The following alarm actuate:
  - 4-2-C HOT LEG TOTAL FLOW LO
  - 4-3-B LOOP 1 HOT LEG FLOW LO
- All four RCP breakers indicate closed, with the following current values:
  - RCP 1-1 = 160 amps
  - RCP 1-2 = 230 amps
  - RCP 2-1 = 260 amps
  - RCP 2-2 = 260 amps

Which one of the following is a correct description of the plant's response to the above conditions?

a. Steam Generator 1 will be underfed and Steam Generator 2 will be overfed.

b. The reactor will trip due to high hot leg temperature in Loop 1.

c. Steam Generator 1 will be overfed and Steam Generator 2 will be underfed.

d. The reactor will trip due to the RPS power to pump trip.

QUESTION: 46

The following plant conditions exist:

- Effective Full Power Days is 290
- A power increase to 100% has just occurred
- Final rod index is 270
- Excore imbalance is indicating negative 13.

Which one of the following actions should be taken to prevent exceeding limits in the Core Operating Limit Report?

a. Add boron to increase rod index and reduce the negative imbalance.

b. Manually withdraw control rods to increase rod index and reduce the negative imbalance.

c. Add demin water to increase rod index and reduce the negative imbalance.

d. Reduce reactor power to increase rod index and reduce the negative imbalance.

QUESTION: 47

The following plant conditions exist:

- Plant is in Mode 1.
- DB-SC-03110, SFAS Channel 1 Functional Test, is in progress with the following components out of normal configuration:
  - Test Trip Bypass Switch in reactor coolant pressure position
  - Test Function Switch in the reactor coolant position
  - BA105, RC pressure low trip bistable, is tripped

Essential 120 VAC Instrument Bus Y2 has deenergized.

Which one of the following describes the response of the SFAS System?

a. SFAS Actuation Channel 2 will trip due to a half trip being present from the testing.

b. SFAS Actuation Channel 2 will have a half trip and SFAS Actuation Channel 1 will have no trip present due to testing.

c. SFAS Actuation Channel 1 will trip due to a half trip being present from the testing.

d. SFAS Actuation Channel 1 will have a half trip and SFAS Actuation Channel 2 will have no trip present due to testing.

QUESTION: 48

Given the following conditions:

- A loss of coolant accident has occurred
- SFAS has initiated on low RCS pressure
- RCS temperature is 300°F
- RCS pressure is 1510 psig

What is the required mode of operation for HPI?

a. HPI should be throttled to prevent going above the maximum P/T for cooldown limit line on Figure 1.

b. Full HPI should be initiated with both pumps.

c. HPI should be throttled to less than 35 gpm per pump.

d. Full HPI should be initiated with one pump to prevent going below the maximum P/T for cooldown limit line on Figure 1.

QUESTION: 49

The plant is at 100% power when Alarm 5-6-E CRD SEQ FAULT alarms.

Which one of the following would be the correct action to take for the failed rod position indication?

a. Reduce power to ≤ 45% and restore failed indication.

b. Verify control rod position on the absolute position indicators and maintain current power.

c. Verify control rod position on the relative position indicator and reduce power to 60%.

d. Verify control rod position on the zone reference lights and maintain current power level.

QUESTION: 50

Which one of the following describes the effect of a loss of compensating voltage on the intermediate range indication?

a. Results in an indicated neutron level lower than actual.

b. Results in an indicated neutron level higher than actual.

c. Results in a greater indicated startup rate (SUR).

d. Results in a decrease in the amount of overlap between intermediate and source range nuclear instruments.

QUESTION: 51

The following plant conditions exist:

- A LOCA has occurred
- The reactor has tripped
- Both cold leg temperatures are 465°F
- Both SGs are at 470 psig
- Subcooling margin meters are deenergized

Which one of the following RCS pressures and temperatures provide indication of adequate subcooling margin?

a. 900 psig using hot let temperature of 495°F

b. 900 psig using incore temperature of 495°F

c. 700 psig using hot let temperature of 480°F

d. 700 psig using incore temperature of 480°F

QUESTION: 52

The following plant conditions exist:

- The plant is at 100% power.
- Service Water Pump 1 has failed.

Which one of the following is correct concerning the CAC 1?

a. Stop CAC 1 and close the SW inlet valve.

b. Shift CAC 1 to slow speed and fully open the temperature control valve.

c. Leave CAC 1 in fast speed and close the SW inlet.

d. Start Service Water Pump 3 to restore service water to CAC 1.

QUESTION: 53

A large LOCA has occurred and the operator has transferred suctions to the CTMT emergency sump.

Which one of the following describes the response of plant equipment following this transfer?

a. DH cooler outlet flow control valves, DH 14A and 14B, automatically.

b. HPI line isolation valves, HP2A, HP2B, HP2C and HP2D, automatically throttle.

c. CTMT spray auto control valves, CS 1530 and 1531, automatically throttle.

d. CTMT air cooler outlet throttle valves, SW1356, SW1357, and SW1358, automatically throttle.

QUESTION: 54

The plant is at 100% power.

Which one of the following conditions will cause a runback of the Unit Load Demand Subsystem?

a. Trip of one heater drain pump.

b. Deaerator tank level 45 inches.

c. Loss of both stator cooling water pumps.

d. MFP discharge pressure 1400 psig.

QUESTION: 55

The following plant conditions exist:

- Reactor power is 28.5% with three RCPs running.
- One SG is on low level limits.
- The reactor has tripped due to I&T testing.

What is the response of the Feedwater System?

a. RFR will cause an increase in SG level on the loop with two RCPs.

b. RFR will not actuate from this power level.

c. RFR will actuate causing MFP speed to increase to approximately 4600.

d. RFR will actuate and close main and startup feedwater valves.

QUESTION: 56

Which one of the following lists the order that equipment is placed in service during a plant startup?

a. 1. MFPT to auto

2. S/G Rx demand

3. Rx demand to auto

4. Rod control panel to auto

b. 1. Rod control panel to auto

2. Rx demand to auto

3. Steam generator loop demands to auto

4. MFPT to auto

c. 1. Rx demand to auto

2. Turbine control to ICS

3. MFPT to auto

4. Rod control to auto

d. 1. Rod control to auto

2. Steam generator loop demands to auto

3. Turbine control to ICS

4. Rx demand to auto

QUESTION: 57

After a loss of off-site power, DCMCC2 deenergizes.

Which of the following is correct for SG level control to prevent an overcooling?

a. SG 1 in automatic control at 124"; SG 2 in manual control.

b. SG 1 in automatic control at 49"; SG 2 in automatic control at 49".

c. SG 1 in automatic control at 49"; SG 2 in manual control.

d. SG 1 in manual control; SG 2 in manual control.

QUESTION: 58

The following plant conditions exist:

- MU/HPI cooling is in progress due to a loss of all feedwater.

Which one of the following methods should be used to restore feedwater to the steam generators?

a. MDFP in the Main Feedwater mode at less than 800 gpm

b. MDFP in the Auxiliary Feedwater mode with 1200 gpm to the SGs

c. Main Feed Pump at 1.0 mpph

d. Auxiliary Feed Pump at less than 225 gpm

QUESTION: 59

The expected effect on Emergency Diesel Generator (EDG) 2 following a loss of 125 VDC power is that the EDG _____.

a. is UNABLE to be started either automatically or manually using start switch(es)

b. will start and run at idle speed (450 rpm) but will NOT accelerate to 900 rpm

c. will NOT start automatically but may be started manually using start switch(es)

d. will start and run at 900 rpm but CANNOT be placed on its associated 4160 VAC essential bus

QUESTION: 60

A miscellaneous waste monitor tank release needs to be performed. RE 1878A and B have been declared inoperable.

Which of the following is required in order to perform the release?

1. Must recirc two tank volumes.
2. Must have two independent samples analyzed.
3. Must have two independent flow rate calculations
4. Must have two independent verifications of the discharge flowpath valving.
5. Must reprocess the monitor tank prior to release.

a. 2, 3, 4

b. 1, 3, 5

c. 3, 4, 5

d. 1, 2, 4

QUESTION: 61

Which one of the following parameters would result in Annunciator 7-3-C, WST GAS SYSTEM TRBL, alarming in the Control Room?

a. Waste gas surge tank pressure of 2.0 psig.

b. Waste gas surge tank hydrogen concentration of 2.0%.

c. Waste gas surge tank oxygen concentration of 2.0%.

d. Waste gas surge tank level of 2.0 inches.

QUESTION: 62

Which one of the following provide area radiation alarms AND has automatic action associated?

a. CCW Line RE 1412

b. Fuel Handling Exhaust System RE 8446

c. CTMT Purge Exhaust System RE 5052

d. Radwaste Exhaust System RE 5403

QUESTION: 63

The following plant conditions exist:

- Reactor power is 100%.
- A 3 gpm RCS leak has been determined to be identified leakage.

Which one of the following is the most significant concern to continued plant operation due to boron precipitation?

a. Hydrogen generation due to corrosion.

b. CTMT air temperature due to CAC blockage.

c. CTMT vessel wall thinning due to corrosion.

d. Blockage of CTMT spray nozzles.

QUESTION: 64

The following plant conditions exist:

- A large break LOCA has occurred.
- LPI pump 1 has been diagnosed with a sheared shaft.

Which one of the following describes the effect on CTMT?

a. CTMT pressure will exceed the design bases pressure due to the loss of cooling flow.

b. CTMT pressure will stay within its design bases pressure, even with the loss of one LPI pump.

c. CTMT temperature will exceed its design bases temperature due to loss of the one LPI pump.

d. CTMT temperature will stay within the design bases temperature if CTMT Purge system is started.

QUESTION: 65

The following plant conditions exist:

- Reactor power is at 68% steady
- RCS pressure is 2100 psig and decreasing slowly
- All Pressurizer heaters are on
- 480 MCC E11A has been deenergized for maintenance (supply to RC 10, Spray Block Valve).
- RC 2, Pzr Spray Valve, has no closed indication even though the control switch was placed in the closed position.
- Pzr PORV outlet temperature indicates 158°F and steady
- The latest RCS water inventory indicates 0.15 gpm total RCS leakage
- RC PRZR PRESS RLF out temperature indicates 158°F and steady

Which one of the following will have the greatest effect on slowing the RCS pressure decrease?

a. Close RC 11, PORV Block

b. Close RC 2A, PORV

c. Stop RCP 1-2

d. Stop RCP 2-2

QUESTION: 66

The following plant conditions exist:

- RC System pressure is 2190 psig.
- The operator has taken RC 2, Pressurizer Spray Valve, control to open and then to auto with RC 2 at 25% open.

Which one of the following describes the expected response of the pressurizer spray valve under these conditions?

a. RC 2 will go fully open.

b. RC 2 will open to the 40% open position.

c. RC 2 will remain at 25% open until pressure increases to 2205 psig, at which time it will open fully.

d. RC 2 will remain at 25% open until pressure increases to 2205 psig, at which time it will open to 40% open.

QUESTION: 67

After placing the RPS in shutdown bypass, which of the following RPS trips is available for protection?

a. High RCS temperature

b. Low RCS pressure

c. Power to pumps

d. RCS variable pressure/temperature

QUESTION: 68

ICS will automatically select the Tave signal from the RCS loop with the highest flow rate. This occurs when the RCS loop with the _____.

a. Highest flowrate increases to greater than 72 mpph, and the operator CANNOT manually override the transfer

b. Highest flowrate increases to greater than 72 mpph, and the operator CAN manually override the transfer

c. Lowest flowrate decreases to less than 63 mpph, and the operator CANNOT manually override the transfer

d. Lowest flowrate decreases to less than 63 mpph, and the operator CAN manually override the transfer

QUESTION: 69

The CTMT hydrogen analyzers can be lined up to four different sample points within CTMT.

Which one of the following is NOT a sample point?

a. Top of Steam Generator 1 secondary shield wall

b. CTMT personnel hatch area

c. Top of CTMT dome

d. Emergency personnel hatch area

QUESTION: 70

The following plant conditions exist:

- Plant is in Mode 6.
- Containment Purge System is in operation on CTMT.
- Fuel handling operations in progress in the refueling canal area.

RE 5052C, CTMT Purge System RCM, has alarmed high.

Which one of the following actions must be taken?

a. Manually align the Emergency Ventilation System to the fuel handling area.

b. Verify CTMT Purge System automatically realigns to the negative pressure area.

c. Manually start both of the Emergency Ventilation System fans.

d. Verify both Emergency Ventilation System fans automatically start.

QUESTION: 71

Refueling operations are in progress.

The following plant conditions exist:

- Fuel handling personnel report the main fuel handling bridge just ran into a reactor vessel guide stud with a spent fuel assembly in the mast.
- Fuel Handling Director reports bubbles are rising around the mast of the main fuel handling bridge.
- Fuel handling personnel on the main fuel handling bridge report their personal electronic dosimeters are alarming and have evacuated the bridge.

Which one of the following is the next operator action to be taken?

a. Sound the Containment Evacuation Alarm and make an announcement to evacuate containment.

b. Sound the Containment Evacuation Alarm and make an announcement to evacuate the Radiologically Restricted Area.

c. Inform the Fuel Handling Director to evacuate containment and manually trip the CTMT Purge System exhaust radiation monitors.

d. Inform the Fuel Handling Director to evacuate the refueling canal area and start both trains of Control Room Emergency Ventilation System.

QUESTION: 72

The selected OTSG 1 startup level instrument rapidly fails to mid-scale with the plant at 95% power.

Which one of the following describes how the effect on the plant would be different with SASS in automatic versus the effect with SASS unable to transfer?

a. - In automatic, SASS would cause a transfer to the non-selected instrument.
   - The same button would stay depressed; however, both would be illuminated.

b. - There would be no difference because even in automatic, OTSG 1 startup level would not transfer due to the difference between actual and mid-scale being less than 3% at this power level.

c. - In automatic, SASS would cause a transfer to the non-selected instrument.
   - The previously non-selected instrument's pushbutton would become depressed and both buttons would be illuminated.

d. - There would be no difference since in either case an automatic transfer to the non-selected instrument would occur.

Answer:

QUESTION: 73

The basis for the RCS cooldown limits in Tech. Specs. is to prevent:

a. Reactor head steam bubble formation

b. Excessive pressurizer outsurge into the RCS

c. Non-ductile failure of an RCS boundary

d. Exceeding Makeup System capacity through a single injection line

QUESTION: 74

The following plant conditions exist:

- An ATWS has occurred.
- E2 and F2 were deenergized and then reenergized to mitigate the event.
- Pressurizer level is 100 inches and steady.

At the completions of Supplemental Actions of DB-OP-02000, you notice that Annunciator Alarm 9-4-A, VAC SYS DISCH RAD HI, in alarm.

Your actions based on this alarm would be to:

a. Go to SG Tube Leak Procedure, DB-OP-02531.

b. Go to Section 8 of DB-OP-02000, SG Tube Rupture.

c. Have the Vacuum System vent realigned to the filter system.

d. No action is required.

QUESTION: 75

If ACB 34560 received a trip signal but failed to open, which one of the following sets of breakers would open?

a. ACB 34561 and ACB 34564

b. ACB 34562 and ACB 34563

c. ACB 34562 and ACB 34564

d. ACB 34561 and ACB 34563

QUESTION: 76

Emergency Diesel Generator (EDG) Air Compressor Receiver 1-2-1 has been isolated and depressurized. The result of this action is:

a. Both EDGs are inoperable.

b. EDG 1 is inoperable, EDG 2 is operable.

c. EDG 1 is operable, EDG 2 is inoperable.

d. Both EDGs are operable.

QUESTION: 77

The purpose of the Service Water Non-Seismic Line Rupture section of DB-OP-02511, Loss of Service Water Pumps/System is to prevent a loss of _____.

a. cooling tower makeup

b. ultimate heat sink inventory

c. auxiliary feedwater alternate suction source

d. turbine plant cooling water cooling

QUESTION: 78

The following alarms are received in the Control Room:

- 9-2-G FIRE WTR ELEC PMP ON
- 9-3-G FIRE WTR DSL PMP ON
- 9-5-G FIRE WTR TRB BLDG PRESS LO
- 9-6-G FIRE WTR STRG TK LVL

An investigation reveals excavation work in the northeast corner of the site has ruptured the underground loop. Isolation of the leak has resulted in the isolations of two hose houses and one hydrant.

Which one of the following documents is the proper document to use in this situation after the leak is isolated?

a. FHAR

b. DB-FP-00009, Fire Protection Impairment and Fire Watch

c. USAR

d. DB-FP-00005, Fire Brigade

QUESTION: 79

The plant is in Mode 6. Refueling operations are in progress in the SFP area and refueling canal area.

Which one of the following statements would affect refueling operations?

a. Equipment hatch with only four bolts holding it in place.

b. Steam Generator 1 with a secondary manway removed and only SP17B2, Main Steam Safety Valve removed.

c. The emergency personnel hatch with the inner door removed and the outer door closed.

d. The CTMT personnel hatch has both doors open with a hose passing through them with only a maintenance worker in attendance.

QUESTION: 80

The following plant conditions exist:

- The plant is in Mode 5.
- Boron concentration of the RCS is being reduced for a startup.
- RCS temperature is 125°F.
- RCS pressure is 50 psig
- DH Pump 1 is in operation.
- The following annunciator has just come in alarm: 3-1-H, LP INJ 1 FLOW LO. Indicated Decay Heat System flow is 2700 gpm.

Which one of the following actions should be taken?

a. Stop DH Pump 1 and place DH Pump 2 in service from the BWST.

b. Shift suction on DH Pump 1 to the BWST.

c. Verify shutdown margin greater than 1% $\Delta K/K$.

d. Close MU 39, Batch Flow Controller.

QUESTION: 81

A leak in the PORV results in a increase in quench tank temperature and level. Quench tank level is normally controlled by discharging excess water to which one of the following?

a. RC drain tank

b. Miscellaneous waste drain tank

c. Containment normal sump

d. Clean waste receiver tank

QUESTION: 82

The following plant conditions exist:

- The plant is operating at 100% power.
- Annunciator Alarm 11-3-A, CCW SURGE TK LVL LO, has just come in.
- CCW surge tank level indicates 42 inches.

Which one of the following pieces of equipment would be of concern if operating?

a. MU Pump 1

b. HPI Pump 1

c. RCP 1-1

d. Waste Gas Compressor 1

QUESTION: 83

Reactor power is 4% when the MSIVs inadvertently close.

Which one of the following describes plant response?

a. Steam pressure control shifts to the AVVs at 870 psig, reactor power remains the same

b. Steam pressure control shifts to the AVVs at 870 psig, reactor power will increase.

c. Steam pressure control shifts to the AVVs at 995 psig, reactor power remains the same.

d. Steam pressure control shifts to the AVVs at 995 psig, reactor power will increase.

QUESTION: 84

At 2300, the Control Room SRO was taken to the hospital due to severe abdominal pain.

Only one qualified SRO could be contacted. The SRO reported he had one glass of wine at 1900 with his dinner and could be on site in 20 minutes.

Which one of the following statements is correct? (Present time is 2330.)

a. He can come onsite after 2400, but must be on-site before 0100.

b. He can come on-site immediately, but must be on-site before 0100.

c. He can come on-site immediately, but must be on-site before 2400.

d. He can come on-site after 0100, but must be on-site before 0300.

QUESTION: 85

The following plant conditions exist:

- Fuel handling operations are in progress.
- A Condition Report has been given to the Shift Supervisor that states both channels of the gamma metrics are inoperable due to improper calibration.

Which one of the following actions is required to be taken if a fuel assembly is in the main fuel handling bridge?

a. Lower the fuel assembly in main fuel handling into the core, then suspend all fuel handling operations.

b. Suspension of fuel handling operations is not required as long as NI-1 and NI-2 are operable.

c. Suspend fuel handling operations that are core alterations only, and place the fuel assembly in the main fuel handling bridge in a safe location.

d. Lower the fuel assembly in the main fuel handling bridge into one of the upenders and lower it, then suspend all fuel handling operations.

QUESTION: 86

The following plant conditions exist:

- A reactor trip occurred at 0100.
- SFAS Levels 1, 2, and 3 have actuated.
- At 1600 the same day, RE4596A and RE4596B increase rapidly to 500 R/hr.
- CAC inlet temperatures read 195°F and 201°F.
- RE4597AB and RE4597BB increase rapidly to 10 μCi/cc.

Which one of the following EALs would you recommend to the Emergency Director to enter?

a. 1.D.1

b. 1.D.2

c. 1.D.3

d. 1.C.1

QUESTION: 87

The following sequence of events have occurred:

- Fuel handling operations were in progress.
- Fuel storage handling bridge has broken down.
- Maintenance reports that it will take 36 hours to repair the problem.
- SF 1, Fuel Transfer Tube 1-2 Isolation, and SF 2, Fuel Transfer Tube 1-1 Isolation, were closed as far as possible without damaging the transfer mechanism cables.

The reason SF 1 and SF 2 were closed as far as possible was _____.

a. to prevent accidental operation of the transfer mechanisms

b. to reduce the rate of inventory loss from the SFP if the reactor vessel flange seal were to fail

c. to prevent a loss of refueling canal inventory due to SFP System leak

d. to reduce the manometer effect of having the SFP and refueling canal cross connected with the equipment hatch closed

QUESTION: 88

The following plant conditions exist:

- Reactor power is 100%.
- DH Pump 1 is out of service for motor bearing replacement.

An EO calls up and reports that EDG 2 lube oil temperature is 83°F.

Which one of the following statements is correct?

a. Test start EDG 2 to ensure operability within one hour.

b. Enter T.S. 3.0.3 and declare EDG 2 inoperable.

c. Enter T.S. 3.0.5 and declare EDG 2 inoperable.

d. Test start EDG 1 to ensure operability within one hour.

QUESTION: 89

A Temporary Approval for isolating a section of the Screen Wash System for maintenance has been prepared and processed in accordance with NG-NA-00115, Control of Procedures.

Which one of the following individuals may authorize approval of the temporary approval?

a. Procedure Preparer

b. Continuous Services Foreman

c. Management Staff SRO

d. Management Staff Qualified Reviewer

QUESTION: 90

Plant I&T personnel have informed the Shift Manager that they need to isolate and remove a pressure gauge on the moisture separator reheater to check its calibration.

What is the minimum administrative control required for this work?

a. A Personal Red Tag Clearance shall be generated.

b. Personal Red Tag Clearance is not required as long as the I&T personnel remain in the area.

c. Operational Information Tag shall be used in place of a Personal Red Tag.

d. System Dispatcher's Clearance is required.

QUESTION: 91

Which one of the following is NOT a basis for the high RC temperature trip?

a. Prevents T_H from exceeding design limits.

b. Acts as a backup trip on all power excursions.

c. Acts to terminate slow reactivity transients in the power range.

d. Provides protection for rapid reactivity excursions.

QUESTION: 92

The Shift Supervisor shall be notified when _____.

a. engaging or disengaging the grapple during fuel handling operations

b. anytime core alterations are in progress and non-essential personnel are in the vicinity of the fuel handling bridges

c. anytime core alterations are in progress and the auxiliary fuel handling bridge is to be moved to the "parked position"

d. anytime core alterations are in progress and direct communications are lost between the refueling canal and the Control Room

QUESTION: 93

A female radiation worker:

- is 45 years old,
- has a Total Effective Dose Equivalent (TEDE) of 0.5 Rem for the current calendar year,
- has declared that she is not pregnant, and
- has not received any dose limit extensions.

During a radiation area entry for maintenance, she receives the following exposure:

-	Shallow Dose Equivalent (SDE) to the skin of the hands	-	6.2 Rem
-	SDE to the hands	-	2.5 Rem
-	TEDE to the whole body	-	0.3 Rem

Which one of the following limits has been exceeded?

a. Davis-Besse administrative SDE to the skin.

b. Davis-Besse administrative SDE to the hands.

c. NRC 10CFR20 TEDE to the whole body.

d. Davis-Besse administrative TEDE to the whole body.

QUESTION: 94

Which one of the following shall be performed prior to recirculation of the Miscellaneous Waste Monitor Tank for sample and release per DB-OP-03011, Radioactive Liquid Batch Release procedure.

a. Tank isolation and hanging of DNO tags on valves/controllers.

b. RE pre-sample operability check on RE1878A and/or RE1878B.

c. Source check of RE1878A and/or RE1878B.

d. Set dilution low flow alarm on computer point F201.

QUESTION: 95

The following plant conditions exist:

- Plant is in Mode 3 with a cooldown in progress for a refueling outage.
- CTMT to annulus differential pressure is 18 inches.
- CTMT Pressure Release Permit has been approved and started.

Which one of the following statements are correct if CTMT pressure release is estimated to take 36 hours?

a. Each 12 hours, the CTMT pressure release will have to be stopped and a new release permit started.

b. Each 24 hours the CTMT pressure release will have to be stopped and a new release permit started.

c. After 12 hours, request a sample of CTMT to extend the release past 24 hours.

d. After 24 hours, request a sample of CTMT to determine whether the release permit can be terminated.

QUESTION: 96

The following plant conditions exist:

- A clean liquid radwaste release is in progress from Clean Waste Monitor Tank 1 to the collection box.
- Annunciator 7-1-B, CLEAN WASTE SYSTEM OUT RAD HI is in alarm.
- The operator determines that RE 1770A, Clean Waste System Outlet Radiation Monitor, is above its high trip setpoint.

Which one of the following is the expected automatic response of the Clean Liquid Waste System?

a. The operating Clean Waste Monitor Tank Transfer Pump trips and WC 1771, Clean Liquid Radwaste Discharge Isolation Valve, receives a close signal.

b. The operating Clean Waste Monitor Tank Transfer Pump trips and WC 1704, CWMT Outlet Flow Control Valve, receives a close signal.

c. The operating Clean Waste Monitor Tank Transfer Pump continues to operate and the flowpath to the collection box is isolated. WC 1771, Clean Liquid Radwaste Discharge Isolation Valve, receives a close signal.

d. The operating Clean Waste Monitor Tank Transfer Pump continues to operate and WC 1704, CWMT Outlet Flow Control Valve, receives a close signal.

QUESTION: 97

LPI Pump 1 is out of service for preventative maintenance activities. The reactor is at 100% power when:

- Large break LOCA occurs.
- Bus D1 experiences a lockout.
- A Site Area Emergency has been declared and all facilities are manned.

The station has determined that the LPI Pump 1 can be restored by racking in the breaker and restoring a valve lineup. Radiation Protection has estimated the dose levels in the area the valve lineup is to be performed to be 25 R/hr.

Which one of the following personnel's authorization is required prior to beginning restoration of LPI Pump 1?

a. Emergency Plant Manager if designated by Emergency Dose Assessment Manager

b. Operations Support Center Manager if designated by the Emergency Director

c. Emergency Plant Manager if designated by the Emergency Director

d. Operations Support Center Manager if designated by Emergency Dose Assessment Manager

QUESTION: 98

Which of the following positions will be the FIRST to assume the role of the Emergency Director in the event that the Shift Supervisor becomes incapacitated during an emergency event?

a. Shift Manager (Shift Technical Advisor)

b. Control Room Reactor Operator

c. Assistant Shift Supervisor

d. Plant Manager

QUESTION: 99

A station event occurs which requires emergency classification in accordance with the D-B Emergency Plan.

Which one of the following is NOT a method available to the Shift Supervisor to notify key Emergency Response Organization (ERO) personnel?

a. CANS (Computerized Automated Notification System)

b. Manual activation of group pagers

c. Manual activation of Emergency Notification System (ENS)

d. Individual telephone contact of emergency responders

QUESTION: 100

Which of the following is the lowest emergency classification that requires an offsite dose assessment be performed?

a. Unusual Event

b. Alert

c. Site Area Emergency

d. General Emergency

KEY

1. d.
2. b.
3. a.
4. b.
5. d.
6. a.
7. c.
8. d.
9. d.
10. d.
11. b.
12. d.
13. b.
14. c.
15. c.
16. b.
17. a.
18. d.
19. c.
20. b.
21. a.
22. c.
23. c.
24. b.
25. c.
26. d.
27. d.
28. c.
29. d.
30. c.
31. d.
32. a.

KEY

33. d.
34. b.
35. c.
36. b.
37. a.
38. d.
39. b.
40. c.
41. b.
42. c.
43. d.
44. b.
45. c.
46. a.
47. b.
48. a.
49. d.
50. b.
51. a.
52. a.
53. c.
54. b.
55. c.
56. d.
57. c.
58. a.
59. a.
60. a.
61. c.
62. b.
63. b.
64. b.
65. d.

KEY

66. d.
67. a.
68. c.
69. d.
70. c.
71. a.
72. b.
73. c.
74. d.
75. d.
76. d.
77. b.
78. b.
79. b.
80. d.
81. a.
82. d.
83. a.
84. a.
85. c.
86. b.
87. b.
88. c.
89. c.
90. b.
91. d.
92. d.
93. a.
94. a.
95. c.
96. c.
97. c.
98. c.

KEY

99. c.

100. b.