

U.S. Nuclear Regulatory Commission

Site-Specific SRO Written Examination

Draft

Applicant Information

Name:

Date: 06-12-2009

Facility/Unit: Vogtle 1 & 2

Region: I II III IV

Reactor Type: W CE BW GE

Start Time:

Finish Time:

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination you must achieve a final grade of at least 80.00 percent overall, with 70.00 percent or better on the SRO-only items if given in conjunction with the RO exam; SRO-only exams given alone require a final grade of 80.00 percent to pass. You have 8 hours to complete the combined examination, and 3 hours if you are only taking the SRO portion.

Applicant Certification

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

Applicant's Signature

Results

RO/SRO-Only/Total Examination Values 75 / 25 / 100 Points

Applicant's Scores _____ / _____ / _____ Points

Applicant's Grade _____ / _____ / _____ Percent

1.

Initial conditions:

- Unit is at 100% power
- All systems are in automatic
- The NCP is in service

Current conditions:

- **Charging line** flow is fluctuating between 30 and 130 gpm
- Letdown Regen HX outlet temperature is fluctuating between 250 and 400 F
- The following annunciators are alarming:

CHARGING LINE HI/LO FLOW
REGEN HX LTDN HI TEMP
VCT HI/LO LEVEL

Which of the following is correct for these conditions?

- A. Enter AOP 18007-C section B for loss of charging flow.
Isolate letdown, increase charging flow as necessary to stabilize flow indications.
- B. Enter AOP 18007-C section B for loss of charging flow.
Isolate letdown, stop the NCP, monitor RCP seals, vent charging pump suctions.
- C. Enter AOP 18007-C section A for loss of letdown flow.
Increase charging flow until stable indications between 80-90 gpm are established.
- D. Enter AOP 18007-C sections A & B for loss of letdown flow and loss of charging flow concurrently. Stop the NCP and isolate letdown flow. Start a CCP.

2.

Given the following conditions:

- The unit is shutdown with Tave at 557 degrees F
- PV-8000A block valve is shut due to excessive seat leakage on PORV- 455
- The breaker for block valve PV-8000B (PORV- 456) has just tripped open
- A risk assessment has NOT been performed for the PV-8000B failure

Which one of the following correctly describes allowable technical specification actions and the bases for those actions?

- A. Separate condition entry IS allowed for each PORV. Reactor startup may proceed. Bases require ONE PORV and its associated block valve to be capable of manual operation.
- B. Separate condition entry is NOT allowed for each PORV. Reactor startup may NOT proceed. Bases require BOTH PORVs and their associated block valves to be capable of manual operation.
- C. Separate condition entry IS allowed for each PORV. Reactor startup may NOT proceed. Bases require BOTH PORVs and their associated block valves to be capable of manual operation.
- D. Separate condition entry is NOT allowed for each PORV. Reactor startup may proceed. Bases require BOTH PORVs and their associated block valves to be capable of manual operation.

3.

Given the following conditions with the unit at 100% power:

- PRZR pressure channel PT-455 has failed LOW
- NR **cold leg** temperature instrument for RCS loop 2 has failed LOW causing the Loop 2 delta T indication to go off scale high
- All associated TSLB bistables for each failure are lit
- The unit continues to operate at full power

Which of the following is correct with respect to the required technical specification actions for this set of conditions?

A. An ATWT is in progress.

LCO 3.0.3 entry is required.

B. An ATWT is NOT in progress.

LCO 3.0.3 entry is required.

C. An ATWT is in progress.

LCO 3.3.1 applies since separate condition entry is allowed for each function.
LCO 3.0.3 entry is NOT required.

D. An ATWT is NOT in progress.

LCO 3.3.1 applies since separate condition entry is allowed for each function.
LCO 3.0.3 entry is NOT required.

4.

DG-1A is running with its output breaker open and the unit at full power when the following indications are received:

- Train A MSIV's red & green lights extinguish
- RTA red & green lights extinguish
- RCP #1 1E breaker red & green lights extinguish
- Channel I TSLB bistable lights illuminate

Which of the following is the correct....

- a) procedure(s) to enter, and
- b) corrective actions to take?

- A. a) Enter 19000-C, E-0 Reactor Trip or Safety Injection, and then initiate 18034-1, Loss of Class 1E 125 VDC Power, when directed in 19001-C, Reactor Trip Response.

b) Stop DG-1A using the push-to-stop control, isolate the letdown relief flowpath, energize 1AY1A and 1AY2A from their regulated transformers, control Tave using SG ARVs 2 & 3.

- B. a) Enter 18034-1, Loss of Class 1E DC Power.

b) Locally emergency stop DG-1A, isolate the letdown relief flowpath, energize 1AY1A and 1AY2A from their regulated transformers, control Tave using SG ARVs 2 & 3.

- C. a) Enter 19000-C, E-0 Reactor Trip or Safety Injection, and then initiate 18034-1, Loss of Class 1E 125 VDC Power, when directed in 19001-C, Reactor Trip Response.

b) Emergency stop DG-1A from the control room, isolate the letdown relief flowpath, energize 1AY1A and 1AY2A from their regulated transformers, control Tave using the steam dumps.

- D. a) Enter 19000-C, E-0 Reactor Trip or Safety Injection, and then initiate 18032-1, Loss of 120V AC Instrument Power, when directed in 19001-C, Reactor Trip Response.

b) Manually control PZR pressure between 2220 and 2260 psig until 1AY1A is re-energized by the associated regulated transformer, control Tave using the steam dumps.

5. Given the following conditions at 38% power:

- ACCW pump 2 is in service
- CCW pumps 2 & 4 are in service
- NSCW Pump 5 is danger tagged

Train A NSCW indications:

- Supply header pressure 45 psig
- Supply header flow 8,000 gpm
- Return header flow 8,000 gpm

Train B NSCW indications:

- Supply header pressure 58 psig
- Supply header flow 25,000 gpm
- Return header flow 10,000 gpm

Which of the following choices contains the correct procedural entry and actions?

A. Enter AOP 18021-C, Loss of NSCW, due to loss of **both** NSCW trains.

Place all NSCW pumps in PTL, trip the reactor and initiate EOP 19000-C, trip the RCPs and isolate CVCS letdown.

B. Enter AOP 18021-C, Loss of NSCW, due to leakage on **train A** NSCW.

Place all NSCW pumps in PTL, trip the reactor and initiate EOP 19000-C. Trip the RCPs and isolate CVCS letdown if cooling not restored in 10 minutes.

C. Enter AOP 18021-C, Loss of NSCW, due to leakage on **train B** NSCW.

Place train B NSCW pumps in PTL, shift CCW pumps to train A, start ACCW pump #1 and remain in 18021-C.

D. Enter AOP 18021-C, due to a trip of a running pump on **train A** NSCW.

Place NSCW train A in single pump operation, trip RCPs if seal temperatures exceed 230 F and remain in 18021-C.

6. Initial Conditions:

- A large LOCA has occurred
- Neither train of RHR could be aligned for cold leg recirculation
- EOP 19111-C, Loss of Emergency Coolant Recirculation, has been implemented

Current Conditions:

- RWST level is now 7% and lowering
- Integrity CSF Status Tree is Orange

Which one of the following describes the action and procedure usage required?

A. Stop all pumps taking suction from the RWST;

Do NOT go to 19241-C, Response to Imminent Pressurized Thermal Shock, because the actions in 19111-C take priority over the Function Restoration Procedures (FRP's).

B. Reduce ECCS flow from the RWST to ONE (1) train running;

Do NOT go to 19241-C, Response to Imminent Pressurized Thermal Shock, because the actions in 19111-C take priority over the Function Restoration Procedures (FRP's).

C. Stop all pumps taking suction from the RWST;

Go to 19241-C, FR-P.1 Response to Imminent Pressurized Thermal Shock

D. Reduce ECCS flow from the RWST to ONE (1) train running;

Go to 19241-C, FR-P.1 Response to Imminent Pressurized Thermal Shock.

7.

Initial conditions:

- Unit at 100% power for last 10 weeks
- All rods out at 228 steps

Current conditions:

- Rod at bottom alarm is alarming
- Control Bank D rod H-8 rod bottom LED lit
- Tave is lowering
- QPTR & AFD remain within limits

Which of the following contains the correct diagnosis and corrective actions?

A. Enter AOP 18003-C, Section A, Dropped Rods in Mode 1.

Reduce thermal power < 75% prior to rod recovery, rod pulls are limited to 3 step increments. When rod recovery is begun the RIL alarm is INOP until the BOU is reset.

B. Enter AOP 18003-C, Section C, Misaligned Rods in Mode 1.

Reduce thermal power < 65% prior to rod recovery, rod pulls are limited to 3 step increments. When rod recovery is begun the RIL alarm is INOP until the BOU is reset.

C. Enter AOP 18003-C, Section A, Dropped Rods in Mode 1.

Reduce thermal power < 65% prior to rod recovery, the 3 step rod pull limit may be suspended for this condition. When rod recovery is begun the RIL alarm is INOP until the P/A converter is reset.

D. Enter AOP 18003-C, Section C, Misaligned Rods in Mode 1.

Reduce thermal power < 75% prior to rod recovery, the 3 step rod pull limit may be suspended for this condition. When rod recovery is begun the RIL alarm is INOP until the P/A converter is reset.

8.

Initial conditions:

- Reactor power is currently 8%
- Tave is on program for 8% power
- PRZR LO LEVEL DEVIATION is alarming
- The SS enters AOP 18001-C, section D, Failure of PRZR Level Instrumentation

Which of the following contains the correct diagnosis and corrective actions for the indications given?

A. The controlling PRZR level channel has failed high.

Adjust charging to prevent letdown from flashing or isolate letdown.
Return actual PRZR level to 25%.
Apply LCO 3.3.1 RTS Instrumentation actions for the failed channel.

B. The controlling PRZR level channel has failed low.

Adjust charging to prevent letdown from flashing or isolate letdown.
Return actual PRZR level to 28%.
Apply LCO 3.3.1 RTS Instrumentation actions for the failed channel.

C. The controlling PRZR level channel has failed high.

Maintain charging flow approximately 10 gpm greater than total seal injection flow.
Return actual PRZR level to 25%.
Write an INFO LCO 3.3.1 RTS Instrumentation for the failed channel.

D. The controlling PRZR level channel has failed low.

Maintain charging flow approximately 10 gpm greater than total seal injection flow.
Return actual PRZR level to 28%.
Write an INFO LCO 3.3.1 RTS Instrumentation for the failed channel.

9.

Initial conditions:

- Crew is implementing FRP 19251-C, Response to High Containment Pressure
- 1BA03 normal incoming breaker tripped open
- DG-1B automatically started and its output breaker closed

Which of the following is the correct action to take for these conditions:

A. Complete FRP 19251-C if it was entered from a red CSFST.

Do not initiate AOP 18031-C, AOPs may NOT be performed in parallel with EOPs.

B. Suspend FRP 19251-C momentarily while initiating 18031-C.

Then complete 19251-C if a red or orange challenge still exists.

C. Continue FRP 19251-C performance.

Initiate AOP 18031-C, AOPs may be performed in parallel with EOPs.

D. Continue FRP 19251-C performance.

Do not initiate AOP 18031-C, AOPs may NOT be performed in parallel with EOPs.

10.

Given the following conditions:

- RCS LOCA occurred 30 minutes ago while at full power
- RCS cold leg temperatures were at 556 F while at power
- EOP 19012-C, Post-LOCA Cooldown & Depressurization, is in use
- RCS cooldown and depressurization have begun
- RCS temperature & pressure currently at 516 degrees F and 1185 psig
- One CCP and one SIP have been stopped

Which of the following contains the correct actions for the conditions given?

A. Stop all RCPs due to loss of reactor coolant inventory concerns.

Limit the cooldown to 60 degrees in next 30 minutes to prevent voiding in the reactor vessel upper head.

B. Stop all RCPs to limit heat input into the RCS.

Limit the cooldown to 100 degrees in next 60 minutes to prevent voiding in the reactor vessel upper head.

C. Stop RCPs 1, 2 & 3 to limit RCP heat input into the RCS.

Limit the cooldown to 60 degrees in next 30 minutes to prevent challenging reactor vessel integrity.

D. Stop RCPs 1, 2 & 3 to maintain PRZR normal spray operational.

Limit the cooldown to 100 degrees in next 60 minutes to prevent challenging the reactor vessel integrity.

11.

Given the following CCW conditions with RCS temperature of 349 F:

Train A:

- CCW pumps 1 & 3 are running
- CCW pump 1 trips
- CCW pump 5 had to be manually started

Train B:

- CCW pump 2 is running with 4 & 6 in PTL
- CCW flow to the SFP HX is isolated
- CCW system pressure is 70 psig

Which of the following choices correctly describes the condition of the CCW system and appropriate technical specification actions to take?

A. Only CCW train A was inoperable during the time only pump 3 was running.

LCO 3.7.7, Component Cooling Water System, was not met until the standby CCW pump was manually started.

B. Both CCW trains are inoperable.

Apply LCO 3.0.3 until RHR HX pressure is adjusted to > 85 psig on train B, then apply LCO 3.7.7, Component Cooling Water System, for CCW train A.

C. Both CCW trains are inoperable.

Apply LCO 3.0.3 and restore CCW train B to 2 pump operation then apply LCO 3.7.7, Component Cooling Water System, for CCW train A.

D. Both CCW trains are operable.

LCO 3.7.7, Component Cooling Water System, is met for both trains.

12.

Given the following:

- SGTR on SG #1
- RCP's were tripped based on EOP 19000-C foldout page requirements
- Crew has transitioned to EOP 19031-C, ES-3.1 Post-SGTR Cooldown Using Backfill
- Crew is contemplating starting an RCP

Which of the following is the correct action to take?

A. Start RCP 4 since it is preferred in order to provide normal spray control.

This RCP aids in mixing contents of the stagnant loop while minimizing a challenge to core reactivity requirements.

B. Start RCP 1 since it is preferred in order to provide normal spray control.

This RCP aids in mixing contents of the stagnant loop while minimizing a challenge to reactor vessel integrity requirements.

C. Continue RCS cooldown on natural circulation.

This is to prevent challenging reactor core cladding integrity due to attack from secondary chemicals.

D. Start RCP 1, 2, or 3.

RCP 4 is saved as a backup in case seals on the running RCP are damaged due to attack from secondary chemicals.

13.

Given the following:

- Unit is in mode 1 at 8% power
- 1BY2B and 1DY1B de-energize due to bus faults

The correct actions to take for this situation are:

A. Enter AOP 18032-1, Loss of 120V AC Instrument Power.

Enter LCO 3.8.9 Distribution Systems - Operating.

BOTH 1BY2B and 1DY1B must be re-energized within 2 hours, otherwise the unit needs to be shutdown.

B. Complete EOP 19000-C, Reactor Trip or Safety Injection, then go to AOP 18032-1, Loss of 120V AC Instrument Power.

Enter LCO 3.8.9 Distribution Systems - Operating.

EITHER 1BY2B or 1DY1B must be re-energized within the next 2 hours from its associated inverter.

C. Enter EOP 19000-C, Reactor Trip or Safety Injection and AOP 18032-1, Loss of 120V AC Instrument Power, concurrently.

Enter LCO 3.0.3 for this condition due to a loss of safety a function.

EITHER 1BY2B or 1DY1B must be re-energized within the next 2 hours from its associated inverter.

D. Enter AOP 18032-1, Loss of 120V AC Instrument Power

Enter LCO 3.0.3 for this condition due to a loss of a safety function.

BOTH 1BY2B and 1DY1B must be re-energized within 2 hours, otherwise the unit needs to be shutdown.

14. Initial conditions:

- Small RCS LOCA inside CNMT is in progress
- CNMT pressure has risen to 4.1 psig
- EOP 19231-C, FR-H.1 Response to Loss of Secondary Heat Sink, is in progress
- RCS bleed & feed is in progress
- Main feedwater has been restored to SG#1

Current conditions:

- Only two SG #1 NR level indications are available
- One indication has a red bezel and the other a black bezel
- The current SG #1 NR levels are:

LT-517 (red bezel) - 15%

LT-551 (black bezel) - 33%

Which of the following are the correct actions to take?

A. Remain in 19231-C;

Wait for LT-517 to go above 32% prior to terminating RCS bleed & feed.

B. Remain in 19231-C;

Terminate RCS bleed & feed, SG level is adequate to continue

C. Return to procedure and step in effect;

Wait for LT-517 to go above 32% prior to terminating RCS bleed & feed.

D. Return to procedure and step in effect;

Terminate RCS bleed & feed SG level is adequate to continue.

15. Initial conditions:

- Unit 1 is at 57% power
- All systems are in their normal alignment for this power level

Current conditions:

- 1CD1M de-energizes due to a bus fault
- HS-5106 TDAFWP Steam Supply Valve indicating lights are dark

Which of the following are the correct actions to take?

Apply LCO 3.7.5, Auxiliary Feedwater System,.....

A. condition B to declare the TDAFW TRAIN inoperable.

TDAFWP governor valve is shut.

B. condition A to declare the TDAFW STEAM SUPPLY inoperable.

TDAFWP governor valve is open.

C. condition B to declare the TDAFW TRAIN inoperable.

TDAFWP governor valve is open.

D. condition A to declare the TDAFW STEAM SUPPLY inoperable.

TDAFWP governor valve is shut.

16. Given the following conditions:

- TURB CNDSR LO VAC annunciator is alarming
- The unit is at full power
- Both mechanical vacuum pumps have been started
- The standby SJAE has been placed in service
- Main condenser vacuum is now 24.0" Hg and lowering (getting worse)

Which of the following correctly describes the actions that should be taken?

A. Lower load to 50% using AOP 18013-C, Rapid Power Reduction.

Rate is limited to 5%/minute with manual rod insertions. Trip reactor if the ROD BANK LO-LO LIMIT alarm comes in or if Tave drops < 551 degrees F.

B. Lower load using UOP 12004-C, Power Operation, until the TURB CNDSR LO VAC alarm clears.

Rate is limited to 5%/minute with automatic rod control. Borate as necessary to keep rods > RIL.

C. Lower load using AOP 18013-C, Rapid Power Reduction, until turbine condenser vacuum is stable or rising.

Rate is limited to 5%/minute with automatic rod control. Trip reactor if Tave goes below 551 degrees F. Borate as necessary to keep ROD BANK LO-LO LIMIT alarm clear.

D. Lower load to 50% using UOP 12004-C, Power Operation.

Rate is limited to that necessary to keep vacuum > turbine trip setpoint of 22.42" Hg. Trip reactor if AFD not maintained within Tech Spec limits.

17.

Given the following conditions:

- WMT 9 release is in progress
- SS discovers the steps for recirculating WMT 9 in SOP 13126-1, "Liquid Waste Release", were marked N/A

What are the impacts and what actions are necessary to correct the consequences of this error?

- A. The release permit values are inaccurate. This could result in radioactive nuclides being released to UNRESTRICTED areas greater than license limits.

The release should be stopped, the tank needs to be recirculated for approximately 1 hour prior to sampling.

- B. The activity level of the WMT contents are not at the lowest possible level. This could result in release of radioactive nuclides > ALARA to UNRESTRICTED areas.

The release may continue. A CR must be written to document the error. The reason for the N/A steps should be annotated on the release permit.

- C. The activity level of the WMT contents are not at the lowest possible level. This could result in radioactive nuclides being released to UNRESTRICTED areas greater than license limits.

The release may continue. The flowrate must be reduced to the minimum obtainable flow possible. A CR must be written to document the error.

- D. The release permit values are inaccurate. This could result in radioactive nuclides being released to UNRESTRICTED areas greater than license limits.

The release should be stopped. The values used in the release permit need to be recalculated using two independent methods prior to restarting the release.

18.

Initial conditions:

- Both units at full power
- No radioactive releases in progress
- Unit 2 has high RCS activity due to fuel leaks

Current conditions:

- Waste Gas system is in service using Gas Decay Tank #1
- Unit 1 plant vent radiation monitor 1RE-12442C is in high alarm
- Waste gas effluent radiation monitor ARE-0014 is in high alarm
- The Auxiliary Building Operator reports that Waste Gas Shutdown Decay Tank # 9 pressure is 50 psig and rapidly lowering.

Which of the following is the correct action to take per plant procedures?

- A. Isolate air to RV-0014 to terminate the unplanned release.

Shift the waste gas system to the low pressure mode of operation.

- B. Shut A-1902-U4-004 downstream of RE-0014 to stop the unplanned release.

Initiate maintenance on the relief valve for shutdown decay tank #9.

- C. Isolate air to RV-0014 to terminate the unplanned release.

Declare RE-0014 inoperable and make a 1 hour notification to the NRC.

- D. Shut A-1902-U4-004 downstream of RE-0014 to stop the unplanned release.

Terminate waste additions from the Unit 2 VCT due to the high RCS activity.

19.

Initial conditions:

- The need to generate a new standing order has been identified
- The standing order will provide temporary instructions **not** covered by a plant procedure.

Which of the following choices is correct concerning review and approval of this new standing order?

A. The duration of the standing order will be limited to 14 days.

The Shift Manager will review and approve **if** a 10CFR 50.59 screening is **not** required.

B. The standing order will **not** have a required termination date.

The Unit Superintendent will review and approve, a 10CFR 50.59 screening **is** required.

C. The duration of the standing order will be limited to 14 days.

The Unit Superintendent will review and approve **if** a 10CFR 50.59 screening is required.

D. The standing order will **not** have a required termination date.

The Shift Supervisor will review and approve, a 10CFR 50.59 screening **is** required

20.

During a review of the surveillance schedules it is discovered that a 31 day surveillance for a particular component was last performed 42 days ago. Within 24 hours of this discovery, the surveillance was performed.

- The surveillance failed because it did not meet surveillance criteria.
- Two hours later, a valve was adjusted and retesting provided satisfactory results.

Which one of the following is correct for this condition?

The component was INOPERABLE _____ until satisfactory retesting was completed.

- A. for the last 42 days
- B. from the time the grace period expired
- C. from the time of the failed surveillance
- D. from the time of identifying the surveillance NOT performed

21.

The following equipment is inoperable at 100% power:

- Boric Acid Transfer Pump #1
- CCP- A
- RCP Common Thermal Barrier Isolation Valve, HV-2041
- TDAFWP

A Loss Of Safety Function (LOSF) evaluation is required for the (a) because it is (b).

A. a. TDAFWP

b. a Technical Specification (TS) required support component for AMSAC

B. a. BATP #1

b. a Technical Requirement (TR) supported component for the BAST

C. a. CCP- A

b. a Technical Specification (TS) required component supported by DG- A

D. a. RCP Thermal Barrier Isolation Valve

b. one of four Technical Requirement (TR) valves that support RCP operation.

22.

Initial conditions:

- An emergency has been declared
- CNMT pressure is 38 psig and rising
- The only available CNMT Spray pump motor has high temperature alarms
- The crew suspects inadequate venting of the motor cooler
- An operator has been selected to vent the motor cooler
- The operator has received 1000 mrem TEDE, but has received NO dose during this event.

Per 91301-C, " Emergency Exposure Guidelines" what is the **maximum** dose the operator can receive?

- A. 4 Rem
- B. 5 Rem
- C. 9 Rem
- D. 10 Rem

23.

Initial conditions:

- Unit tripped from full power due to an RCS LOCA
- CNMT radiation monitors RE-005 & RE-006 indicate $8.1 \text{ E}+6 \text{ mr/hr}$

Using the attached Figures 1, 2, and 3 of 91001-C, Emergency Classification, determine the appropriate emergency classification based on the radiation monitor readings.

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

24. A loss of All AC power has occurred and the crew is preparing to depressurize intact SGs to 300 psig per 19100-C, Loss of All AC Power.

A NOTE immediately prior to the SG depressurization step states:

"PRZR level may be lost and Reactor Vessel Upper Head voiding may occur due to depressurization of the SGs".

Which of the following is correct regarding the operational implication of this note?

- A. This is the desired response in order to refill the PRZR and regain control of RCS pressure once the PRZR heaters are covered with water.
- B. SG depressurization should be stopped if RV head voiding occurs to prevent loss of RCS subcooling and loss of core heat removal.
- C. SG depressurization reduces RCS pressure to inject the SI accumulators to help maintain RCS inventory. SG depressurization should continue even if RV upper head voiding is occurring.
- D. This is the desired response to refill the PRZR and allow restarting an RCP to established forced convective cooling of the reactor core. The depressurization would only be stopped if PRZR level exceeded 75%.

25.

Initial conditions:

- The unit tripped from 100% power
- Loss of all off-site power occurred
- Both EDG's are powering their respective loads

Current conditions:

- RCS pressure 2235 psig and stable
- RCS loop hot leg temperatures 602°F and stable
- RCS loop cold leg temperatures 588°F and stable
- Core exit TCs are 610°F and stable
- SG pressures are 1085 psig and stable

Which of the following choices is correct?

A. Natural circulation is established with the steam dumps.

RCS cooldown may **not** proceed while borating the RCS.

B. Natural circulation is **not** established.

Increase rate of dumping steam with the steam dumps while borating the RCS.

C. Natural circulation is established with the SG ARV's.

RCS cooldown may **not** proceed while borating the RCS.

D. Natural circulation is **not** established.

Increase rate of dumping steam with the SG ARV's while borating the RCS.



REFERENCE USE

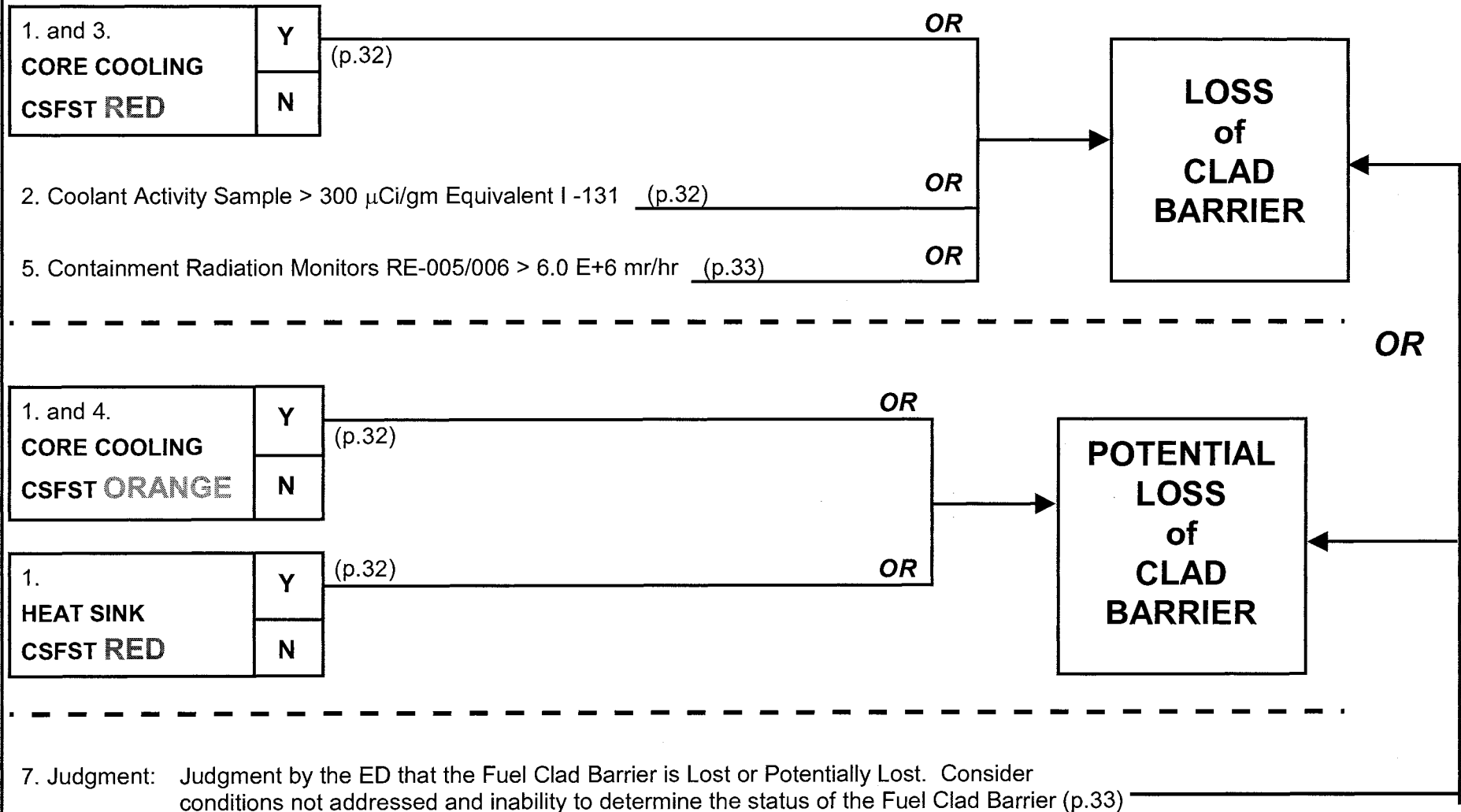


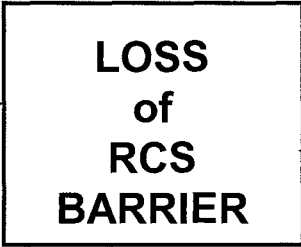
FIGURE 1 – FUEL CLADDING INTEGRITY (Modes 1, 2, 3 and 4 only)

REFERENCE USE

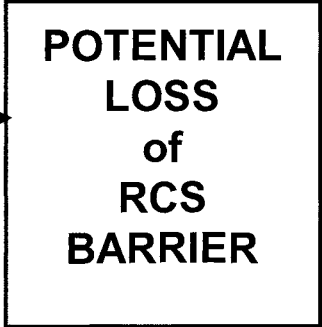
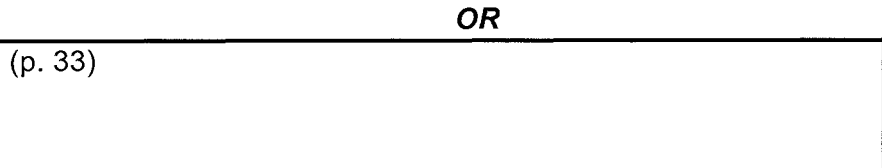
2. RCS Leak in progress **AND** RCS Subcooling is Less Than 24 °F [38 ° F ADVERSE] (p.33) **OR**

3. SGTR Resulting in an SI Actuation (p.34) **OR**

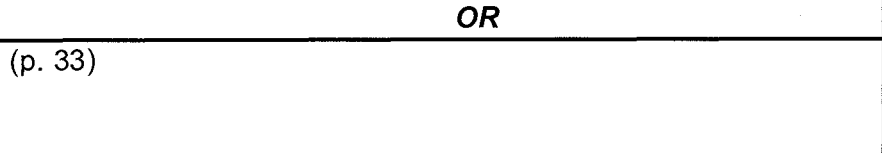
4. Containment Radiation Monitors RE-005/006 > 2.0 E+4 mr/hr (p.34) **OR**



1. HEAT SINK CSFST RED	Y
	N



1. RCS INTEGRITY CSFST RED	Y
	N



2. NON-Isolable RCS leak (including SG tube leakage) GREATER THAN the Capacity of One Charging Pump in the normal charging mode (p.34) **OR**

5. Unexplained level rise in any of the following: containment sump, Reactor Coolant Drain Tank (RCDDT), Waste Holdup Tank (WHT) (p.34)

6. Judgment: Judgment by the ED that the RCS Barrier is Lost or Potentially Lost. Consider conditions not addressed and the inability to determine the status of the RCS Barrier (p. 34)

OR

FIGURE 2 – REACTOR COOLANT SYSTEM (RCS) INTEGRITY (Modes 1, 2, 3 and 4 only)

REFERENCE USE

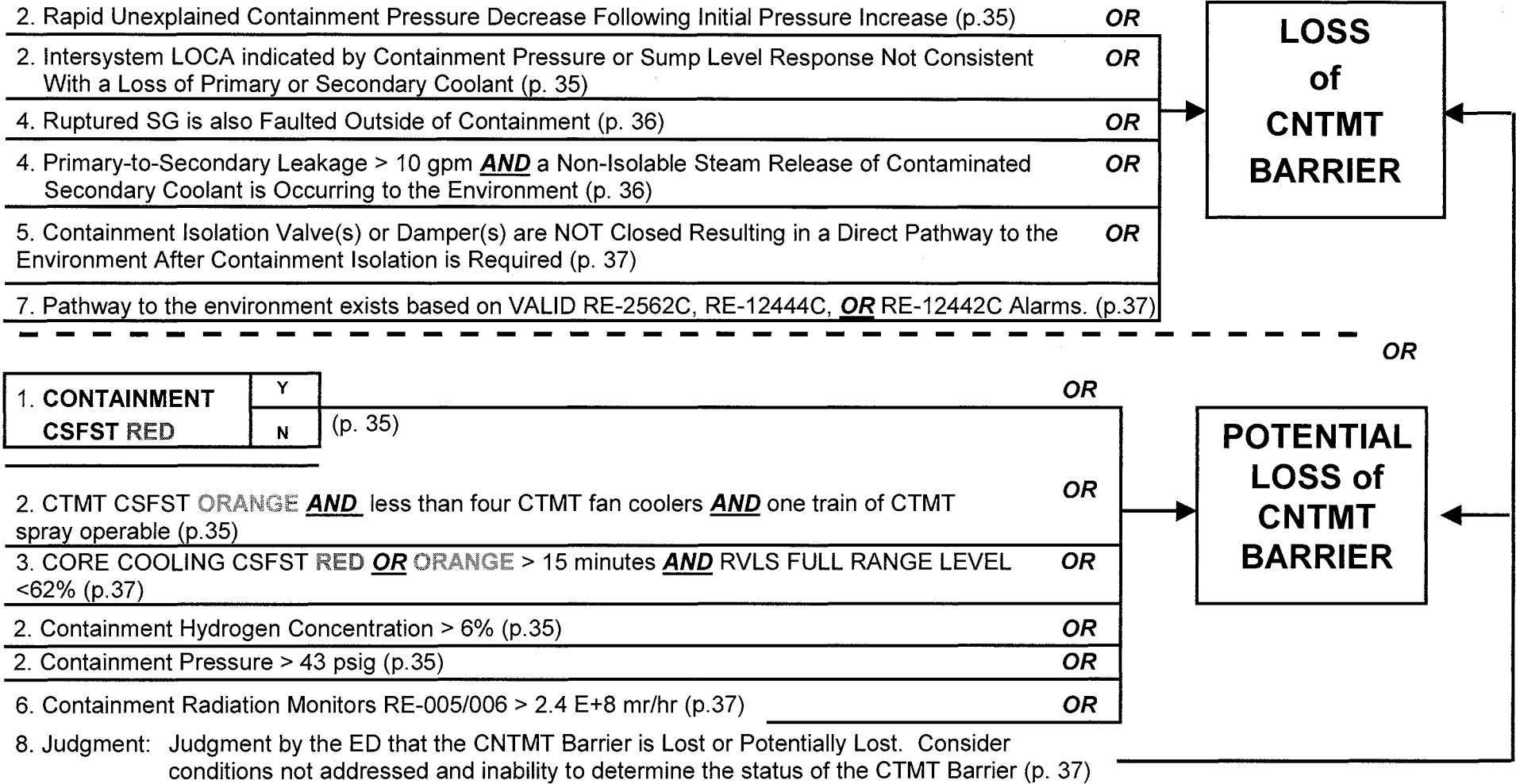


FIGURE 3 – CONTAINMENT INTEGRITY (Modes 1, 2, 3 and 4 only)

#	ID	0
1	022AA2.02 1	B
2	027AG2.1.32 1	C
3	029EG2.2.22 1	A
4	058AA2.03 1	A
5	062AA2.02 1	A
6	WE11EG2.4.2 1	C
7	003AG2.4.35 1	C
8	028AA2.08 1	D
9	069AG2.4.8 1	C
10	WE03EA2.2 1	C
11	008A2.07 1	C
12	012G2.4.20 1	A
13	013A2.04 1	A
14	059G2.4.3 1	A
15	061A2.03 1	C
16	055G2.4.11 1	C
17	068A2.02 1	A
18	071A2.09 1	B
19	G2.1.15 1	B
20	G2.2.22 1	C
21	G2.2.38 1	C
22	G2.3.4 1	D
23	G2.3.5 1	B
24	G2.4.20 2	C
25	G2.4.47 1	D