

INITIAL SUBMITTAL OF THE SRO WRITTEN EXAMINATION

FOR THE DONALD C. COOK INITIAL RETAKE

EXAMINATION - SEPTEMBER 10, 2001



AEP: America's Energy Partner™

Date: 8/6/01
Subject: NRC Written Retake Exam Material
From: Max Bailey
To: Pete Peterson, NRC Region III

Enclosed you will find a signed Form ES-401-7, 100 questions plus references, and recommended handouts for the upcoming written examination for the week of September 10, 2001. The exam material was developed in accordance with section ES-401 of NUREG-1021 Revision 8 Supplement 1.

Please be informed that the header of each question contains the following format for your reference:

EXAMPLE: 01002C006 003/ILT REQ/SRO/- REF REQUIRED/G2.4.44/2.1/4.0/2/EP-70/BANK

1. 01002C006 003 is the BANK question number
2. *ILT REQ* is the program in which the question was used
3. *SRO* is the level at which the question is testing
4. (*- REF REQUIRED*) is used to designate questions needing a reference to answer
5. *G2.4.44* is the NRC NUREG-1122 K/A reference
6. *2.1/4.0* is the NRC NUREG-1122 K/A value
7. *(1/2/3)* is the cognitive level of the question from memory to analysis
8. *EP-70* is a cross reference to an OLD bank question
9. *BANK/MODIFIED/NEW* is a reference to the origin of the question

If you have any questions, please contact me at 616-465-5901 X3128 or X3066. I will be in contact with you over the next couple of weeks to respond to any questions, comments or feedback on the exam material.

QUESTIONS REPORT
for NRCQUESTIONS

1. 01002C0006 003/ILT REQ/SRO/-/G2.4.44/2.1/4.0/2/EP - 70/BANK
Which ONE of the following RVLIS channels is usable when RCP #21 is the ONLY running pump during shutdown conditions?
- a. Train 'A' Upper Plenum
 - b. ✓ Train 'B' Upper Plenum
 - c. Train 'A' Narrow Range
 - d. Train 'B' Narrow Range

ANSWER: B

ORIGINATION DATE: 3/27/00

REVISION DATE:

EXAM/QUIZZES: RO2010CM;

LESSON PLAN/OBJ: RO-C-00200/#6;

REFERENCES: SOD-00200-002 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

2. 01002C0106 002/ILT/RO/- REF REQUIRED/003 K6.04/2.8/3.1/2/RCP - 8/MODIFIED
During containment isolation valve testing, valve CCM-452, Train-B CCW Return Header Isolation Valve, was inadvertently CLOSED with RCP #3 running.

Which ONE of the following RCP components suffered a loss of cooling water flow?

- a. thermal barrier heat exchanger
- b. bearing oil coolers
- c. fire protection system
- d. motor air coolers

ANSWER: B

ORIGINATION DATE: 10/9/92

REVISION DATE:

EXAM/QUIZZES: 99SEIR04; STA EXAM 5; RO20SRO3;

LESSON PLAN/OBJ: RO-C-NS15/11(41); RO-C-NS2P/#53; RO-C-00201/#6;

REFERENCES: SOD-01600-002 Rev 1

MODIFIED

QUESTIONS REPORT
for NRC QUESTIONS

3. 01002C0208 004/ILT REQ/RO/-/010 A3.02/3.6/3.5/2/PZPC - 4/BANK
With pressurizer pressure control system in position #1 (channels 1 and 4), pressure transmitter NPP-151 failed LOW.

Which ONE of the following statements describes the RCS/Pressurizer system response? {ASSUME: NO operator action.}

- a. ✓ All pressurizer heaters turn ON.
Two PORVs cycle to control pressure.
- b. Backup pressurizer heaters turn ON.
One PORV cycles to control pressurizer pressure.
- c. Proportional pressurizer heaters are FULL ON.
Spray valves cycle to control pressurizer pressure.
- d. All pressurizer heaters turn ON.
Reactor trips on high pressurizer pressure condition.

ANSWER: A

ORIGINATION DATE: 6/1/99

REVISION DATE:

EXAM/QUIZZES: RO16 NRC EXAMNRC(625); Q2404E; Q2404A; Q2404B; Q2404D;

LESSON PLAN/OBJ: RO-C-NS03/8a; RQ-C-2441/#1a;

REFERENCES: SOD-0202-002 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

4. 01002C0222 003/ILT/RO/-/APE 008 AK2.02/2.7/2.7/1/PZLC - 14/BANK
Which ONE of the following is an input to the cold overpressure protection circuitry for Pressurizer PORV, NRV-152?
- a. RVLIS pressure instrument
 - b. ✓ Wide range RCS pressure instrument
 - c. Pressurizer pressure instrument selected for control
 - d. Pressurizer pressure instrument selected for bistable

ANSWER: B

ORIGINATION DATE: 5/17/00

REVISION DATE:

EXAM/QUIZZES: RO1820; 95TSADV1; Q2301C; 99SEIR04; RO15 AUDIT EXAMNRC(215); STA EXAM 2;
RO2010CM; RO20SRO2;

LESSON PLAN/OBJ: RO-C-00202/#22;

REFERENCES: SOD-00202-001 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

5. 01008C0002 013/NLO/RO/-/006 K1.03/4.2/4.3/1/ECCS - 75/BANK
Which ONE of the following pumps/tanks does NOT share a common injection line with other systems to the Reactor Coolant System?

- a. ✓ Centrifugal Charging Pumps
- b. Safety Injection Pumps
- c. Residual Heat Removal Pumps
- d. Accumulators

ANSWER: A

ORIGINATION DATE: 4/28/99

REVISION DATE: 5/17/99

EXAM/QUIZZES: AE2403D; Q2403A; RQ2507B; RQ2507D;

LESSON PLAN/OBJ: AE-C-2431/#3; RQ-C-2431/#7; RQ-C-2571/#7

REFERENCES: Flow Diagram OP-1-5104C-6

QUESTIONS REPORT
for NRCQUESTIONS

6. 01008C0009 005/ILT/RO/-/013 A4.02/4.5/4.7/1/ECCS - 32/BANK

Which ONE of the following Engineered Safety Features Actuation System signals can NOT be reset or blocked with the original actuation signal present?

- a. Safety Injection
- b. ✓ Steamline Isolation
- c. Containment Spray
- d. Containment Isolation (Phase A)

ANSWER: B

ORIGINATION DATE: 6/1/92

REVISION DATE: 8/8/96

EXAM/QUIZZES: RO14 NRC EXAM(380);

LESSON PLAN/OBJ: RO-C-NS12; SD-DCC-HP111;

REFERENCES: SOD-01100-002 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

7. 01009C0013 002/ILT/RO/-/026 K2.01/3.4/3.6/1/CTS - 97/BANK
WHICH ONE of the following will result in the loss of power to BOTH Unit 1
Containment Spray Pumps?

- a. Loss of Buses T11B and T11C
- b. Loss of Buses T11A and T11C
- c. Loss of Buses T11B and T11D
- d. ✓ Loss of Buses T11A and T11D

ANSWER: D

ORIGINATION DATE: 2/23/00

REVISION DATE:

EXAM/QUIZZES: R911716; 99SEIR03; RO2004C;

LESSON PLAN/OBJ: RO-C-00900/#13; RO-C-00900

REFERENCES: SOD-08201-001 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

8. 01010C0010 001/ILT/SRO/- REF REQUIRED/025 K3.01/3.8/3.8/2/IC - 12/BANK
The following conditions exist on Unit 1:

- Thermal power is 99% and steady
- Ice Bed temperature monitoring system is INOPERABLE
- Ice Compartment doors are ALL CLOSED
- Last recorded mean Ice Bed temperature was 21°F and slowly rising
- Ice Condenser cooling system is OPERABLE

Which ONE of the following actions is required to ensure containment integrity during an accident?

- a. Restore Ice Bed temperature monitoring system to OPERABLE status within 30 days or be in Cold Shutdown condition within 36 hours.
- b. ✓ Commence unit shutdown to be in Cold Shutdown condition within 36 hours.
- c. Restore Ice Bed temperature to less than 15F within 48 hours or be in Hot Standby within the next 6 hours.
- d. Verify the Ice Condenser Doors are not impaired by ice, frost or debris and monitor ice bed temperature every 12 hours while attempting to restore temperature to normal range.

ANSWER: B

ORIGINATION DATE: 2/22/00

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RO-C-NS14/#10;

REFERENCES: Tech Spec 3.6.5.2 and 3.6.5.4

MODIFIED

QUESTIONS REPORT
for NRCQUESTIONS

9. 01011C0006 006/ILT/RO/- REF REQUIRED/012 A1.01/2.9/3.4/2/RPS - 84/BANK
The following plant conditions exist:

- Reactor power 100%
- Rod control in manual
- All other controls in automatic

Which ONE of the following will cause the OverTemperature Delta-T trip setpoint to decrease?

- a. Auctioneered high Tavg fails low
- b. Power reduction to 50% with normal pressure and temperature
- c. RCS Wide Range pressure channel fails low
- d. ✓ N42 power range lower detector fails low

ANSWER: D

NOTE: Students to be provided with a copy of Tech Spec (Section 2 as a minimum) for this question.

ORIGINATION DATE: 11/16/94

REVISION DATE:

EXAM/QUIZZES: RO1822MU1; RO16 NRC EXAM(636)

LESSON PLAN/OBJ: RO-C-NS11/#6;

REFERENCES: Tech Spec Table 2.2-1

QUESTIONS REPORT
for NRCQUESTIONS

10. 01011C0019 001/ILT/RO/-/012 K6.10/3.3/3.5/2/RPS - 70/BANK

Unit 1 was operating at 51% power when a reactor trip occurred due to the loss of the #12 RCP. The following plant conditions exist:

- Tavg is at 520°F and lowering
- Feedwater isolation did NOT actuate
- Load Rejection Controller was controlling the Steam Dump valves.

Which ONE of the following permissive circuits failed, resulting in the aforementioned plant conditions?

- a. ✓ P-4
- b. P-7
- c. P-8
- d. P-10

ANSWER: A

ORIGINATION DATE: 6/24/92

REVISION DATE:

EXAM/QUIZZES: RO1822MU1; RO13 NRC EXAMNRC(369)

LESSON PLAN/OBJ: RO-C-NS11/19, 8;

REFERENCES: Tech Spec Table 3.3-1

QUESTIONS REPORT
for NRCQUESTIONS

11. 01011C00XX 017/ILT/RO/-/001 K1.05/4.5/4.4/2/RPS - 79/MODIFIED
The following plant conditions exist:

- Turbine Power is 12% and slowly rising.
- Power Range Channel N-41 has been removed from service
- Tavg is 3°F below programmed Tref.
- Rod Control is in AUTO.

Which ONE of the following Rod Withdrawal Stops is preventing any outward motion of the control rods to restore Tavg?

- a. C-1, Intermediate Range High Flux
- b. C-2, Power Range High Flux
- c. C-4, Overtemperature Delta-T
- d. C-5, Turbine Low Power

ANSWER: D

ORIGINATION DATE: 7/6/92

REVISION DATE:

EXAM/QUIZZES: RO1822MU2

LESSON PLAN/OBJ: RO-C-NS11; RO16 AUDIT EXAMNRC(378)

REFERENCES: SOD-01200-001 Rev 1

MODIFIED

QUESTIONS REPORT
for NRCQUESTIONS

12. 01012C0004 006/ILT REQ/RO/-/APE 003 AK2.05/3.7/3.8/1/CRD - 52/BANK

Unit 2 was operating at 20% power when a control rod dropped into the core. During recovery of the dropped rod, an URGENT FAILURE alarm was received.

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

- a. Current signals to moveable and stationary grippers are lost at the same time.
- b. ✓ Current to the moveable and stationary grippers does not match the current command signal.
- c. Moveable and stationary grippers attempt to energize at the same time.
- d. Output voltage to the moveable and stationary grippers has excessive ripple.

ANSWER: B

ORIGINATION DATE: 12/30/98

REVISION DATE:

EXAM/QUIZZES: RO14 NRC EXAMNRC(248) ; 99SEIR12;

LESSON PLAN/OBJ: RO-C-NS04/#4; RQ-C-2322/#2;

REFERENCES: OHP 4022.012.005 Att B Rev 6

QUESTIONS REPORT
for NRCQUESTIONS

13. 01013C0006 001/ILT REQ/RO/-/APE 033 AA1.02/3.0/3.1/2/NI - 24/BANK

During a reactor startup while at the point of adding heat, both Intermediate Range instruments fail LOW.

Which ONE of the following statements describes the NI system response?

- a. ✓ SR High Flux trip is unblocked causing a reactor trip signal.
- b. IR Rod Stop permissive is actuated.
- c. IR Trip Block annunciator is actuated.
- d. SR High Flux trip will remain blocked.

ANSWER: A

ORIGINATION DATE: 6/3/98

REVISION DATE:

EXAM/QUIZZES: RO1820; RO14 NRC EXAM(323); Q2302MU; Q2408A1;

LESSON PLAN/OBJ: RO-C-NS09/#6, 8, 9; RQ-C-2321/#3; RQ-C-2482/#2;

REFERENCES: SOD-01300-003 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

14. 01013C0011 031/ILT/RO/-/APE 032 AK3.01/3.2/3.6/2/RPS - 124/BANK

During a reactor start-up with power at 1.0E-7 amps, the N31 source range detector develops a low internal resistance condition due to the high voltage electrode contacting the casing.

Which ONE of the following is the IMMEDIATE effect on continued plant operation?

- a. Source range high flux reactor trip
- b. Loss of high flux at shutdown indication
- c. Loss of N41 and N43 power range channels
- d. ✓ Source Range N31 has no response or effect

ANSWER: D

ORIGINATION DATE: 4/29/97

REVISION DATE:

EXAM/QUIZZES: RO1925;

LESSON PLAN/OBJ: RO-C-01300/#11

REFERENCES: Tech Spec Table 3.3-1

QUESTIONS REPORT
for NRCQUESTIONS

15. 01013C5001 001/ILT/RO/-/G2.3.1/2.6/3.0/1/RMS - 62/BANK

Which ONE of the following federal limits on personnel exposure is assured when the Radiation Monitoring System is in operation?

a. 10CFR50, appendix R

b. ✓ 10CFR20

c. 10CFR100

d. 10CFR21

ANSWER: B

ORIGINATION DATE: 2/15/00

REVISION DATE:

EXAM/QUIZZES: RO2002;

LESSON PLAN/OBJ: RO-C-01350/#1;

REFERENCES: SOD-01350-001 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

16. 01013C5007 001/ILT REQ/RO/-/EPE E16 G2.4.10/3.0/3.1/2/RMS - 35/BANK

Following a spurious Containment Spray Signal, the operators acknowledge that the PPC display for ERS-1400, Lower Containment Radiation Monitor, has changed to PURPLE.

To restore this channel to operable status, the operators should:

- a. press the reset pushbutton above the RMS CT.
- b. ✓ reopen the containment isolation valves and restart the pump.
- c. press the CVI (Containment Vent Isolation) reset pushbuttons.
- d. notify RP and restart containment purge on their OK.

ANSWER: B

ORIGINATION DATE: 6/17/98

REVISION DATE:

EXAM/QUIZZES: RQ2507E; RQ2507A; RQ2507C;

LESSON PLAN/OBJ: RO-C-AS21/#1; RQ-C-2572/#7

REFERENCES: 02-OHP 4021.211 Drop 49 Rev 6; 12-THP-6010-RPC-810 Rev 2

QUESTIONS REPORT
for NRCQUESTIONS

17. 01013C5008 007/ILT/RO/-/APE 061 AA2.04/3.1/3.5/1/RMS - 73/BANK
Which ONE of the following Eberline control terminal status lights would indicate an INOPERABLE condition when LIT?

- a. Red - High alarm
- b. ✓ White - maintenance
- c. Yellow - Alert alarm
- d. Yellow - Trend

ANSWER: B

ORIGINATION DATE: 4/20/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RO-C-01350/#8; RQ-C-2572/#8

REFERENCES: 01-OHP 4024.211 Drop 48 Rev 6; 12-THP-6010.RPI.803 Rev 10a

QUESTIONS REPORT
for NRCQUESTIONS

18. 01013C5010 003/REQ/SRO/- REF REQUIRED/G2.3.11/2.7/3.2/2/RMS - 34/BANK

Following an audible alarm from the Eberline RMS system, operators determine that RFS-1010, Liquid Release Sample Flow Switch, is INOPERABLE. Liquid waste releases:

- a. cannot be performed until the flow switch is restored to OPERABLE.
- b. cannot be performed until the radiation channel (RRS 1001) is verified OPERABLE.
- c. ✓ can be performed provided at least two independent samples are analyzed and at least two qualified persons independently verify the discharge valve lineup.
- d. can be performed for up 30 days provided the flow rate is estimated at least once per 4 hours during actual releases.

ANSWER: C

ORIGINATION DATE: 6/17/98

REVISION DATE: 12/20/00

EXAM/QUIZZES: RQ2507B; RQ2507C; RQ2507D;

LESSON PLAN/OBJ: RO-C-AS21/#1; RQ-C-2572/#10

REFERENCES: PMP-6010.OSD.001 Att 3 Rev 16; 12-OPH 4021.006.004 Att 3 Rev 24b

QUESTIONS REPORT
for NRCQUESTIONS

19. 01016C0002 001/ILT/RO/-/008 K1.02/3.3/3.4/1/CCW - 13/BANK

Which ONE of the following is a load on the miscellaneous header cooled by the Component Cooling Water System?

- a. ✓ Containment penetrations coolers
- b. Diesel generator coolers
- c. CTS pump mechanical seal heat exchanger
- d. RHR heat exchanger

ANSWER: A

ORIGINATION DATE: 9/11/98

REVISION DATE:

EXAM/QUIZZES: R911716; AE2306C;

LESSON PLAN/OBJ: RO-C-AS01/#2; AE-C-2362/#2;

REFERENCES: SOD-01600-001 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

20. 01019C0006 027/ILT/RO/-/076 A3.02/2.9/3.2/3/ESW - 20/BANK

Unit 2 is in Mode 3 ready to begin a reactor startup. Both Units have their respective West ESW pump running. The Unit 2 RCP bus tie breaker to Bus T21A OPENED on a fault.

Which ONE of the following automatic actions would NOT occur?

- a. Normal ESW supply to the Unit 2 AB DG receives an open signal
- b. ✓ Alternate ESW supply to the Unit 2 CD DG receives an open signal
- c. Unit 1 East ESW pump starts
- d. Unit 2 West ESW pump starts

ANSWER: B

ORIGINATION DATE: 12/2/98

REVISION DATE:

EXAM/QUIZZES: Q1803B; Q1803D; Q1803A;

LESSON PLAN/OBJ: RO-C-01900/#6; RQ-C-1832/#1;

REFERENCES: SOD-01900-001 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

21. 01019C0015 002/REQ/RO/-/EPE E15 EA1.2/2.7/2.9/2/ESW - 12/BANK
The following plant conditions exist:

- Small Break LOCA is in progress
- Reactor has tripped due to SI actuation
- Lower containment pressure is 4 psig
- East containment spray has tripped after automatically starting
- RWST level is 33.9%
- Containment sump level is 45%

The following valves are CLOSED:

- WMO 713, Containment Spray Heat Exchanger 1E ESW outlet valve.;
- ICM 305, Containment Recirculation Sump Valve.;
- IMO 202, Spray Additive Tank Outlet Valve.;

Which ONE of the following is the reason for WMO 713 being closed? {ASSUME: All required operator actions were completed.}

- a. ✓ The Containment Recirculation Sump Valve (ICM 305) is closed.
- b. There is low level in the Containment Recirculation Sump.
- c. The Containment Spray Pump is not running.
- d. RWST has not yet reached the low-low level setpoint of 9.1%.

ANSWER: A

ORIGINATION DATE: 12/2/98

REVISION DATE:

EXAM/QUIZZES: Q2007C;

LESSON PLAN/OBJ: RQ-C-2075/#1;

REFERENCES: SOD-01900-001 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

22. 01023C0011 001/ILT/RO/-/G2.2.25/2.5/3.7/1/LGD - 1/BANK

The basis for the Technical Specification limit that "the quantity of radioactivity contained in each gas storage tank shall be limited to 43,800 curies of equivalent Xe-133" is to ensure that:

- a. the dose rate at 6 ft from the tank does not exceed the 10CFR20 limit of 100 mrem/hr to the whole body.
- b. in the event of an uncontrolled release of the tank's contents, the thyroid dose to an individual at the site boundary for 6 hours will not exceed 100 mrem.
- c. ✓ in the event of an uncontrolled release of the tank's contents, the dose to an individual at the nearest site boundary will not exceed 0.5 rem.
- d. the dose rate at 6 ft from the tank does not exceed the limits of 10CFR20, Appendix B, Table 2 Column 1.

ANSWER: C

ORIGINATION DATE: 5/17/00

REVISION DATE:

EXAM/QUIZZES: RO2009; RO20SRO2;

LESSON PLAN/OBJ: RO-C-02300/#11;

REFERENCES: Tech Spec 3.11.2.2 basis

QUESTIONS REPORT
for NRCQUESTIONS

23. 01028C0005 001/ILT REQ/RO/-/103 A3.01/3.9/4.0/1/CV - 9/BANK

Which ONE of the following automatic actions occur as a result of a Containment Isolation Phase B?

- a. The containment pressure relief fan starts
- b. ✓ The pressurizer enclosure fans trip
- c. The air recirculation/hydrogen skimmer fans trip after two minutes
- d. The reactor cavity supply fans start

ANSWER: B

ORIGINATION DATE: 6/10/98

REVISION DATE: 7/31/98

EXAM/QUIZZES: R911816; R921717; RO1818; 95TSADV3; RO19C1; Q2304C; Q2304A; Q2304E; Q2304MU; 2409Q1;

LESSON PLAN/OBJ: RO-C-AS08/#5c; RQ-S-2334/#5c;

REFERENCES: OHP 4023.SUPP.004 Rev 1a

QUESTIONS REPORT
for NRCQUESTIONS

24. 01028C0007 001/ILT/RO/-/EPE E14 EK2.2/3.4/3.8/2/CV - 35/BANK

The following conditions exist:

- Containment Recirc. Fan 1 suction valve's (VMO-101) control switch is tagged CLOSE.
- Containment Recirc. Fan 2 suction valve's (VMO-102) control switch is in NORMAL position.
- Both Containment Recirc. Fans' control switches are in AUTO.

Which ONE of the following describes the automatic response after two minutes following the receipt of a containment pressure HIGH signal?

- a. Both fans will start and both valves will fully open.
- b. Only fan HV-CEQ-2 will start but only valve VMO-102 will fully open.
- c. ✓ Both fans will start but only valve VMO-102 will fully open.
- d. Only fan HV-CEQ-2 will start but both valves will fully open.

ANSWER: C

ORIGINATION DATE: 2/21/00

REVISION DATE:

EXAM/QUIZZES: STA EXAM 4;

LESSON PLAN/OBJ: RO-C-02800/#7;

REFERENCES: SD-02800 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

25. 01028C0009 001/ILT/RO/-/103 A4.04/3.5/3.5/1/CV - 16/BANK

Which ONE of the following equipment/system does NOT need to be realigned following a Phase A containment isolation signal reset?

- a. Control air to containment
- b. Containment upper ventilation fans
- c. RCP seal return
- d. Cooling water to reactor supports

ANSWER: B

ORIGINATION DATE: 6/10/98

REVISION DATE:

EXAM/QUIZZES: RO1818; RO15 AUDIT EXAM NRC(20);

LESSON PLAN/OBJ: RO-C-AS08; RO-C-NS13(24);

REFERENCES: OHP 4023-E.0 Rev 16b; OHP 4023-SUPP.003 Rev 1a

QUESTIONS REPORT
for NRCQUESTIONS

26. 01028C0017 001/ILT REQ/RO/-/022 A4.01/3.6/3.6/1/CV - 20/BANK

The operator notes a white lamp indication above the fan control switches for the following fans:

- Pressure Relief Exhaust
- Instrument Room Ventilation
- Hot Sleeve Ventilation
- Upper Containment Ventilation
- Lower Containment Pressurizer Enclosure
- Lower Containment Reactivity Cavity Supply

Which ONE of the following signals has been actuated?

- a. Reactor Trip
- b. Safety Injection
- c. Containment Isolation Phase A
- d. Load Conservation

ANSWER: D

ORIGINATION DATE: 6/10/98

REVISION DATE: 7/31/98

EXAM/QUIZZES: RO16 NRC EXAM RETAKE(738); RO1818; 95TSADV3; RO1914; Q2304A; Q2304B;

LESSON PLAN/OBJ: RO-C-AS08/7(20), RO-C-AS10(69), RO-C-PG14(42); RQ-S-2334/#5b;

REFERENCES: SOD-08201-001 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

27. 01028C01A02 006/ILT/RO/-/APE 067 AA2.14/3.2/4.3/2/ABV - 69/BANK
Which ONE of the following lists the Unit-1 Control Room Ventilation system damper alignment for operation during a fire located in the Control Room Cable Vault?

	<u>1-HV-ACR-DA-1 CR AC INTAKE</u>	<u>1-HV-ACR-DA-2 CR OUTSIDE AIR INTAKE</u>	<u>1-HV-ACR-DA-3 CR PRZ RECIRC</u>
a.	OPEN	PARTIAL OPEN	CLOSED
b.	OPEN	CLOSED	CLOSED
c.	OPEN	CLOSED	OPEN
d.✓	CLOSED	PARTIAL OPEN	CLOSED

ANSWER: D

ORIGINATION DATE: 2/23/00

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RO-C-02801A/#2;

REFERENCES: SOD-02801A-001 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

28. 01028C01A12 002/ILT/RO/-/G2.1.33/3.4/4.0/1/ABV - 67/BANK

To verify the Control Room Ventilation System remains OPERABLE, the control room temperature must be below what MAXIMUM limit per Technical Specifications?

- a. 85°F
- b. ✓ 95°F
- c. 120°F
- d. 130°F

ANSWER: B

ORIGINATION DATE: 2/23/00

REVISION DATE:

EXAM/QUIZZES: RO2003;

LESSON PLAN/OBJ: RO-C-02801A/#12;

REFERENCES: Tech Spec 3.7.5.1

QUESTIONS REPORT
for NRCQUESTIONS

29. 01028C01B05 001/ILT/RO/-/G2.1.28/3.2/3.3/1/ABV - 54/BANK

What support function does the Fire Protection System provide to the Auxiliary Building Ventilation Sub-Systems?

- a. Deluge for Supply and Exhaust Fans
- b. ✓ Deluge for Charcoal Filters
- c. Makeup for Chilled Water
- d. Makeup for humidifiers

ANSWER: B

ORIGINATION DATE: 2/22/00

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RO-C-02801B/#5;

REFERENCES: SD-02801B Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

30. 01032C0001 001/ILT/RO/-/064 K4.11/3.5/4.0/2/DG - 44/BANK

A loss of offsite power has occurred. The diesel generators have started and the output breakers are shut, supplying power to all the required loads. A safety injection signal is subsequently received.

The diesel generators will:

- a. ✓ Continue to run and subsequent load shedding will not occur.
- b. Continue to run and subsequent load shedding will occur.
- c. Trip and subsequent load shedding will not take place.
- d. Trip and subsequent load shedding will take place.

ANSWER: A

ORIGINATION DATE: 3/9/00

REVISION DATE:

EXAM/QUIZZES: RO2006; RO20SRO1;

LESSON PLAN/OBJ: RO-C-03200/#1;

REFERENCES: SD-03200 Rev 0

QUESTIONS REPORT
for NRCQUESTIONS

31. 01032C0018 001/ILT/RO/-/064 K6.07/2.7/2.9/2/DG - 35/BANK

Diesel Generator 1CD is running and loaded following an emergency start signal. Which ONE of the following describes the response of 1CD Diesel Generator following a complete depressurization of the Diesel Generator's 100 psig control air sub-system?

- a. ✓ The Throttle Control cylinder will extend causing the fuel racks to close.
- b. No effect because control air system is no longer needed.
- c. The Slow Start cylinder will extend driving the fuel racks to a minimum position.
- d. The Intake Air After-Cooler ESW (3-way) valves will fail to the bypass position.

ANSWER: A

ORIGINATION DATE: 02/15/00

REVISION DATE:

EXAM/QUIZZES: RO2004C;

LESSON PLAN/OBJ: RO-C-03200/#18;

REFERENCES: SD-03201 Rev 0

QUESTIONS REPORT
for NRCQUESTIONS

32. 01051C0010 004/ILT/RO/-/035 A4.06/4.5/4.6/1/SG - 22/BANK

Unit 2 is operating at full power. A High alarm is received on R-19, Blowdown Radiation monitor.

Which ONE of the following describes the automatic response of the Blowdown system to this alarm?

- a. ✓ Blowdown discharge isolation (DRV 350) trips closed, Blowdown Sample Isolation valves (DCR 301 - 304) trip closed.
- b. Blowdown discharge isolation (DRV 350) trips closed, Blowdown Sample Isolation valves (DCR 301 - 304) remain open.
- c. Blowdown treatment pump trips, Blowdown Sample isolation valves (DCR 301 - 304) trip closed.
- d. Blowdown treatment pump trips, Blowdown Sample Isolation valves (DCR 301 - 304) remain open.

ANSWER: A

ORIGINATION DATE:2/24/00

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RO-C-PG01/#10;

REFERENCES: 12-OHP 4021.013.006 Rev 4a

QUESTIONS REPORT
for NRCQUESTIONS

33. 01052C0013 003/ILT/RO/-/APE 057 AA2.19/4.0/4.3/2/GENERIC - 127/BANK
Given the following Unit 2 conditions:

- Reactor and turbine/generator output both stable at 70% prior to trip.
- Rod control in Manual.
- Steam dump control in T_{avg} mode.
- UPC-101 Bypass header pressure failed low.
- MPC-254 Turbine impulse pressure channel II failed low.
- No actions have been taken yet in response to the failures.

Which ONE of the following Steam Dump system responses will occur on a turbine trip with the loss of CRID-3?

- a. All nine steam dump valves trip open.
- b. ✓ Six valves (groups 1 & 2) throttle to maintain T_{avg} at 547°F.
- c. Three valves (group 1) cycle open and closed as T_{avg} goes above and below 541°F.
- d. All nine steam dump valves are blocked closed.

ANSWER: B

ORIGINATION DATE: 8/29/95

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RQ-C-1851/#1;RO-C-PG12/#13

REFERENCES: OHP 4021.082.008 Table 3 Rev 12

QUESTIONS REPORT
for NRCQUESTIONS

34. 01055C0011 001/ILT/RO/-/APE 054 AA1.01/4.5/4.4/2/FW - 10/BANK

The following plant conditions exist:

- Unit 1 is at 7% power on the steam dump to the condenser.
- Turbine rolling up to 1800 rpm.
- All operating condensate booster pumps trip.

Which ONE of the following describes the system response? {ASSUME: NO operator action is taken.}

- a. MFP-Immediate trip;
AFW PUMPS-Start on MFW pump trip;
TURBINE TRIP-On Reactor trip
- b. MFP-Immediate trip;
AFW PUMPS-Start on SG low low level;
TURBINE TRIP-On MFW pump trip
- c. ✓ MFP-Trip after 5 sec. delay;
AFW PUMPS-Start on MFW pump trip;
TURBINE TRIP-On MFW pump trip
- d. MFP-Trip after 5 sec. delay;
AFW PUMPS-Start on SG low low level;
TURBINE TRIP-On Reactor trip

ANSWER: C

ORIGINATION DATE: 8/20/98

REVISION DATE:

EXAM/QUIZZES: R911316; R9113M1; STA10MU; RO1823;

LESSON PLAN/OBJ: RO-C-PG10/#;

REFERENCES: SD-05500 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

35. 01057C0008 009/NLO/RO/-/075 K1.08/3.2/3.2/1/CW - 31/BANK

Emergency Intake Shutoff valves (WMO-17, WMO-27) from each Unit's discharge vault to the forebay are designed to supply emergency flow to which ONE of the following, if the intakes from the lake are collapsed?

- a. Circulating water pumps so condenser vacuum will be maintained for continued turbine-generator operation.
- b. ✓ Essential service water pumps for emergency cooling of its vital loads.
- c. Emergency core cooling pumps to provide for Safety Injection into the reactor coolant system if required.
- d. Diesel driven fire pumps to provide backup for containment and control room cooling.

ANSWER: B

ORIGINATION DATE: 10/1/98

REVISION DATE:

EXAM/QUIZZES: AE2305D; AE2305E;

LESSON PLAN/OBJ: AE-C-PG07/#5; AE-C-9213/#7; AE-C-5701/#5; AE-C-2350/#2;

REFERENCES: SOD-05700-001 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

36. 01064C0107 001/ILT/RO/-/079 A2.01/2.9/3.2/1/IA - 49/BANK

Which ONE of the following air headers supplies the 20 PSIG control air header?

- a. 50 PSIG control
- b. 85 PSIG control
- c. ✓ 100 PSIG control
- d. Weld Channel

ANSWER: C

ORIGINATION DATE: 2/15/00

REVISION DATE:

EXAM/QUIZZES: RO2004C;

LESSON PLAN/OBJ: RO-C-06401/#7;

REFERENCES: SOD-06401-001 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

37. 01064C0110 002/ILT/RO/-/078 K3.02/3.4/3.6/2/1A - 27/BANK

Which ONE of the following systems is available after a loss of control air?

- a. CVCS Letdown
- b. ✓ Seal Injection
- c. Normal blender makeup
- d. Spent fuel pit cooling

ANSWER: B

ORIGINATION DATE: 4/27/99

REVISION DATE: 5/12/99

EXAM/QUIZZES: Q2203C; Q2403D;

LESSON PLAN/OBJ: RQ-C-2232/#1; RQ-C-2432/#4;

REFERENCES: OHP 4022.064.002 Rev 4

QUESTIONS REPORT
for NRCQUESTIONS

38. 01082C0103 001/ILT/RO/-/062 G2.1.27/2.8/2.9/1/EDV - 7/BANK

The design function of the 120V AC distribution panels (AFW, AFWX, ELSC, and ELSCX) is to supply:

- a. Balance of plant loads in the event of a design basis earthquake.
- b. Engineered safety system loads in the event of a large break LOCA.
- c. Engineered safety system and balance of plant loads in the event of a steam generator tube rupture.
- d. ✓ Engineered safety system and balance of plant loads in the event of an Appendix R fire.

ANSWER: D

ORIGINATION DATE: 01/05/00

REVISION DATE:

EXAM/QUIZZES: RO2001;

LESSON PLAN/OBJ: RO-C-08201/#3;

REFERENCES: SD-08201 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

39. 01082C0105 001/ILT/RO/-/062 K2.01/3.5/4.0/1/EDV - 9/BANK

Which ONE of the following provides control power for the safety-related 4kV breakers?

- a. 600V AC distribution circuitry
- b. ✓ 250V DC distribution circuitry
- c. 120V AC potential transformers
- d. 125V DC station auxiliaries

ANSWER: B

ORIGINATION DATE: 01/06/00

REVISION DATE:

EXAM/QUIZZES: RO2004C;

LESSON PLAN/OBJ: RO-C-08201/#5;

REFERENCES: SOD-08204-001 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

40. 01082C0114 001/ILT/RO/-/G2.2.22/3.4/4.1/2/EDV - 17/BANK

With Unit 1 operating at 100% power, which ONE of the following conditions would require entry into a Technical Specification LCO?

- a. Diesel Generator 1AB has one fuel transfer pump out of service for maintenance.
- b. ✓ 600V bus crosstie breaker 11AC is closed for post maintenance testing.
- c. 600V bus crosstie breaker 11BCMC is closed for Transformer maintenance.
- d. 600V bus 11-CMC is de-energized for breaker cleaning.

ANSWER: B

ORIGINATION DATE: 01/07/00

REVISION DATE:

EXAM/QUIZZES: RO2001;

LESSON PLAN/OBJ: RO-C-08201/#14;

REFERENCES: Tech Spec 3.8.2.1

QUESTIONS REPORT
for NRCQUESTIONS

41. 01082C0408 001/ILT/RO/-/APE 058 AK1.01/2.8/3.1/1/EDC - 8/BANK
Which ONE of the following conditions would result in a "Battery Charger 2AB2 Abnormal" (Annunciator 219 Drops 20) alarm in the Control Room?

- a. Input circuit breaker open
- b. Output circuit breaker open
- c. ✓ Blown rectifier fuse
- d. Low charger output voltage

ANSWER: C

ORIGINATION DATE: 2/9/00

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RO-C-08204-K08;

REFERENCES: SD-08204; OHP 4024 119/219

QUESTIONS REPORT
for NRCQUESTIONS

42. 01ADMC0904 040/ILT/RO/-/G2.2.13/3.6/3.8/1/ADM1 - 195/BANK

Which ONE of the following is a responsibility of a clearance acceptor?

- a. Ensuring all site personnel comply with the requirements of this procedure.
- b. The authorization and implementation of Emergency Clearances.
- c. ✓ Verifying the adequacy of the clearance to ensure work can be performed safely.
- d. Verification that JOA instructions do not circumvent the 50.59 process.

ANSWER: C

ORIGINATION DATE: 10/28/99

REVISION DATE:

EXAM/QUIZZES: SR2407M1; SR2407M3;

LESSON PLAN/OBJ: SR-C-SR06/#3;

REFERENCES: PMP 2110-CPS-001 Rev 4

QUESTIONS REPORT
for NRCQUESTIONS

43. 01AOPC512 001/ILT/RO-/APE 026 AA2.06/2.8/3.1/1/AO - 148/BANK

In accordance with procedure 01-OHP 4022.016.001, Malfunction of CCW System, the affected Reactor Coolant Pump(s) must be tripped within _____ minutes following a complete loss of Component Cooling Water flow to minimize damage.

a. 2

b. 5

c. 10

d. 15

ANSWER: A

ORIGINATION DATE: 7/6/92

REVISION DATE:

EXAM/QUIZZES: RO16 AUDIT EXAM;

LESSON PLAN/OBJ: RO-C-AS01/#22; RO-C-AOP5/#12;

REFERENCES: 01-OHP 4022.016.001 Rev 2

QUESTIONS REPORT
for NRCQUESTIONS

44. 01AOPC707 001/ILT/RO/-/G2.4.11/3.4/3.6/1/AOP - 36/BANK

In accordance with OHP 4022.012.003, Uncontrolled Withdrawal of an RCCA, a continuous rod withdrawal event at 99% power with rod control in automatic will require the operators to trip the reactor when:

- a. reactor power rises to 102%.
- b. emergency boration efforts do not restore T_{avg} to Tref.
- c. turbine load reduction does not generate a rods-in signal.
- d. ✓ rod motion continues even after placing rod control in manual.

ANSWER: D

ORIGINATION DATE: 6/11/92

REVISION DATE:

EXAM/QUIZZES: RO-C-NS04(61); RO15 AUDIT EXAM; RO21AOP3; RO21AOP3;

LESSON PLAN/OBJ: RO-C-AOP-7/#7A;

REFERENCES: 02-OHP 4022.012.003 Rev 3

QUESTIONS REPORT
for NRCQUESTIONS

45. 01EC0C105 001/ILT REQ/RO/-/APE 022 AK3.02/3.5/3.8/1/EV - 9/BANK
Unit 2 has entered 02-OHP 4025.001.001, Emergency Remote Shutdown, procedure. While re-establishing RCS seal flow using the CVCS crosstie, the procedure cautions the operator to slowly initiate seal injection flow.

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

- a. The reach rods controlling the crosstie valves are subject to being damaged if operated abruptly.
- b. A sudden flow demand will cause a level control transient in the opposite unit.
- c. The sudden initiation of seal flow may cause the thermal barrier heat exchanger to fail.
- d. ✓ Initiating flow slowly will minimize the thermal shock imposed on the RCP seals.

ANSWER: D

ORIGINATION DATE: 11/24/98

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RO-C-EC01/#5; RQ-C-2360/#1e;

REFERENCES: 12-OHP 4023-ECA.0.0 PSBD Rev 2; 02-OHP 4025.001.001 Rev 3

QUESTIONS REPORT
for NRCQUESTIONS

46. 01EOPC0309 001/ILT/RO/-/APE 056 AK1.01/3.7/4.2/2/EOP03.09 - 2/BANK
Unit 2 was operating at 100% power when a reactor trip occurred due to a loss of offsite power. The operators completed the actions of ES-0.1, "Reactor Trip Response", and have transitioned to ES-0.2, "Natural Circulation Cooldown", where they are initiating a natural circulation cooldown.

At the onset of the natural circulation cooldown, which ONE of the following processes will remove the MOST heat from the Reactor Vessel HEAD?

- a. The 25°F/hr natural circulation cooldown of the RCS.
- b. ✓ All CRDM fans running.
- c. Heat losses to ambient.
- d. Upper head bypass flow.

ANSWER: B

ORIGINATION DATE: 11/9/00

REVISION DATE:

EXAM/QUIZZES: RO20EOP2;

LESSON PLAN/OBJ: RO-C-EOP03/#9;

REFERENCES: 12-OHP 4023 ES-0.3 PSBD Rev 2

QUESTIONS REPORT
for NRCQUESTIONS

47. 01EOPC0406 001/ILT/RO/-/EPE 029 EK1.01/2.8/3.1/1/EOP04.06 - 1/BANK

During an ATWS event, the fuel cladding fission product barrier is severely challenged.

Which ONE of the following conditions is the mechanism which causes the fuel/cladding challenge?

- a. High RCS pressure caused by high temperature.
- b. ✓ Fuel overheating from DNBR limits being exceeded.
- c. Overpower of the fuel/fuel rod.
- d. Excessive radial flux distribution.

ANSWER: B

ORIGINATION DATE: 11/9/00

REVISION DATE:

EXAM/QUIZZES: RO20EOP2; RO21EOP3;

LESSON PLAN/OBJ: RO-C-EOP04/#6;

REFERENCES: 12-OHP 4023.FR-S.1 PSBD Rev 0

QUESTIONS REPORT
for NRCQUESTIONS

48. 01EOPC0414 003/ILT/RO/-/EPE 029 EA1.13/4.1/3.9/1/EOP04.14 - 1/BANK
An Immediate Action of OHP 4023.FR-S.1, Response to Nuclear Power
Generation/ATWS is to Manually Actuate AMSAC.

The reason for performing this step is to:

- a. ensure that the feed pumps are tripped.
- b. prevent overspeed of the main turbine.
- c. ✓ prevent a loss of heat sink.
- d. minimize positive reactivity addition.

ANSWER: C

ORIGINATION DATE: 11/9/00

REVISION DATE:

EXAM/QUIZZES: RO20EOP3; RO21EOP2; RO20ECOMP;

LESSON PLAN/OBJ: RO-C-EOP04/#14;

REFERENCES: 12-OHP 4023.FR-S.1 PSBD Rev 2

QUESTIONS REPORT
for NRCQUESTIONS

49. 01EOPC0420 001/ILT/RO/-/APE 024 AK3.02/4.2/4.4/2/EOP04.20 - 1/BANK

The Unit 2 crew is performing 02-OHP 4023.FR-S.1, Response to Nuclear Power Generation/ATWS, and valve 2-QMO-420 (Emergency Boration to CCP Suction Valve) will NOT open. In addition, valves IMO-910 and 911, RWST Suction to the CCPs, are NOT available or open.

Which ONE of the following means of negative reactivity addition MUST be attempted in accordance with procedure?

- a. Manually initiate Safety Injection.
- b. Turn on ALL Pressurizer Heaters and allow the RCS to heatup.
- c. ✓ Manually align charging to the normal boration flowpath.
- d. Reduce AFW flow to minimum for ALL SGs.

ANSWER: C

ORIGINATION DATE: 11/9/00

REVISION DATE:

EXAM/QUIZZES: RO20EOP3; RO21EOP2;

LESSON PLAN/OBJ: RO-C-EOP04/#20;

REFERENCES: 01-OHP 4023.FR-S.1 Rev 9

QUESTIONS REPORT
for NRCQUESTIONS

50. 01EOPC0602 001/ILT/RO/-/003 A2.02/3.7/3.9/1/EOP06.02 - 2/MODIFIED

Which ONE of the following conditions would require a NORMAL shutdown to Mode 3 followed by a RCP trip in accordance with OHP 4022.002.001, Malfunction of a Reactor Coolant Pump, procedure?

- a. #1 seal leakoff temperature is 190°F and rising.
- b. RCP Thermal Barrier DP Low alarm is LIT with no indication available.
- c. ✓ #2 Seal Standpipe Level High alarm is LIT with 2 gpm leakage to RCDT.
- d. Seal leakoff flow indicates greater than 6 gpm.

ANSWER: C

ORIGINATION DATE: 11/9/00

REVISION DATE:

EXAM/QUIZZES: RO20EOPZ; RO21EOPM;

LESSON PLAN/OBJ: RO-C-EOP06/#2;

REFERENCES: OHP.4022.002.001 Rev

MODIFIED

QUESTIONS REPORT
for NRCQUESTIONS

51. 01EOPC0803 001/ILT/RO/-/APE 037 AA2.12/3.3/4.1/2/EOP08.03 - 1/BANK

A SG tube leak is in progress. Plant conditions just before the leak were steady state with no evolutions in progress. Some time later, the following conditions exist:

- CVCS charging flow rate (QFI-200) = 90 gpm
- CVCS letdown flow(QFI-301) = 70 gpm
- Total RCS seal injection = 32 gpm
- Total RCP seal leakoff flow = 12 gpm
- RCS temperature at no load T_{ave} and steady
- PZR Press and Level are stable

Based on the above indications, what is the approximate RCS SG leak rate?

- a. 0 gpm
- b. ✓ 8 gpm
- c. 20 gpm
- d. 28 gpm

ANSWER: B

ORIGINATION DATE: 12/01/00

REVISION DATE: 02/27/01

EXAM/QUIZZES: RO20EOP4; RO20ECOMP;RO21EOP4;

LESSON PLAN/OBJ: RO-C-EOP08/#3;

REFERENCES: 01-OHP 4022.002.021 Rev 4; 01-OHP 4030-STP-016 Rev 14a

QUESTIONS REPORT
for NRCQUESTIONS

52. 01EOPC0904 001/ILT/RO/-/EPE 011 EK3.12/4.4/4.6/1/EOP09.04 - 1/MODIFIED
Unit 2 is shutdown following a Loss of Offsite Power with a LOCA event. The operators are performing actions in 02-OHP 4023.E-1, Loss of Reactor or Secondary Coolant.

Which ONE of the following statements is the basis for placing both NESW pump control switches in PULL-TO-LOCK prior to resetting the SI signal?

- a. ✓ Prevent an overload condition on either Emergency Diesel Generator.
- b. Prevent an overcooling condition of the Glycol Chiller Unit.
- c. Minimize an inadvertent RCP Fire Protection header spray actuation.
- d. Minimize a loss of Plant Air system capability during recovery.

ANSWER: A

ORIGINATION DATE: 12/01/00

REVISION DATE:

EXAM/QUIZZES: RO20EOP6; RO21EOP5;

LESSON PLAN/OBJ: RO-C-EOP09/#4;

REFERENCES: 12-OHP 4023-E.1 PSBD Rev 0

QUESTIONS REPORT
for NRCQUESTIONS

53. 01EOPC0908 004/ILT/SRO/-/EPE 011 G2.1.7/3.7/4.4/2//BANK

Unit 2 experienced a LOCA which resulted in a peak containment pressure of 8 psig. After twenty minutes of completing procedural actions, the following pertinent plant conditions exist:

- RCS temperature 436°F and stable
- RCS pressure 450 psig and stable
- CNMT pressure 4.5 psig and decreasing
- S/Gs pressures all decreasing slowly
- S/Gs levels all 80% to 90% wide range
- Secondary radiation normal
- AF flow (Total) 700 gpm
- RWST level 61%

Which ONE of the following represents the ECCS equipment in operation during an evaluation of plant status in Step 11 of 02-OHP 4023.E-1, Loss of Reactor or Secondary Coolant, procedure?

EDGs <u>RUNNING</u>	RHR pumps <u>RUNNING</u>	CTS pumps <u>RUNNING</u>	SI pumps <u>RUNNING</u>
------------------------	-----------------------------	-----------------------------	----------------------------

- | | | | | |
|------|-----|-----|-----|-----|
| a. | YES | YES | NO | YES |
| b. | NO | YES | YES | NO |
| c. | YES | NO | NO | YES |
| d. ✓ | NO | NO | YES | YES |

ANSWER: D

ORIGINATION DATE: 2/26/01

REVISION DATE:

EXAM/QUIZZES: RO20ECOMP; RO21EOP5;

LESSON PLAN/OBJ: RO-C-EOP09/#08

REFERENCES: 02-OHP 4023-E.1 Rev 10

QUESTIONS REPORT
for NRCQUESTIONS

54. 01EOPC09XX 005/ILT/RO/-/G2.4.16/3.0/4.0/2/EOP09 - 6/MODIFIED

The control room operators are responding to a red path on the Heat Sink CSFST. They have implemented FR-H.1, Response to Loss of Secondary Heat Sink, when they identify a red path on the Integrity CSFST. The operators should:

- a. Transfer to FR-P.1, Response to Imminent Pressurized Thermal Shock Condition, because the integrity CSF has a higher priority than the heat sink CSF.
- b. Implement FR-H.1 or FR-P.1, according to which one has its associated CSFST red path criteria exceeded by the larger margin.
- c. ✓ Continue with FR-H.1 because the heat sink CSF has a higher priority than the integrity CSF.
- d. Continue with FR-H.1 until transition to other procedures is allowed while concurrently addressing all red path conditions that exist.

ANSWER: C

ORIGINATION DATE: 9/30/98

REVISION DATE: 2/22/00

EXAM/QUIZZES: R1700B1; S1700B1; S/R 1700B6; 1800B4; AT001; Q2404B; R2324B-B3R; STA EXAM 6;

LESSON PLAN/OBJ: RQ-S-FH01/SRO.5; RQ-S-E101/SRO.3; RQ-S-E101/STA.6; RQ-R-1907/#3.; RQ-C-2350/#1&9; RQ-C-2443/#2;

REFERENCES: OHI 4023 Rev 10; 01-OHP 4023.F-0.3 and F-0.4 Rev 4

MODIFIED

QUESTIONS REPORT
for NRCQUESTIONS

55. 01EOPC1004 001/ILT REQ/RO/-/EPE 074 EA1.12/4.1/4.4/2/EOP10.04 - 1/BANK
A LOCA has occurred on Unit 2 and the following conditions exist:

- ALL RCPs are STOPPED
- RVLIS indication is NOT available.

Which ONE of the following parameters would indicate Inadequate Core Cooling conditions?

- a. Cold Leg Temperature 547°F,
RCS Pressure 1500 psig,
No ECCS injection is available
- b. CETC Temperature 550°F,
RCS Pressure 1000 psig,
ECCS injection is available
- c. Cold Leg Temperature 340°F,
RCS pressure 100 psig,
ECCS injection is available
- d. ✓ CETC Temperature 550°F,
RCS pressure 700 psig,
No ECCS injection is available

ANSWER: D

ORIGINATION DATE: 02/09/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RO-C-EOP10/#4

REFERENCES: RO-C-EOP10 Study Guide pg 14; 02-OHP 4023.F-0.2 Rev 4

QUESTIONS REPORT
for NRCQUESTIONS

56. 01EOPC1009 001/ILT REQ/RO/- REF REQUIRED/EPE E06 EK1.2/3.5/4/1/2/EOP10.09 - 2/BANK
Given the following plant conditions on Unit 2 following a LOCA:

- All Reactor Coolant Pumps are running
- NO Charging or Safety Injection pumps are running

Which ONE of the following conditions would require transition to 02-OHP 4023.FR-C.2, Response to Degraded Core Cooling? {ASSUME: All CETC remain below 1200°F.)

- a. Core Exit Thermocouples (CETC) read 725°F
- b. RCS Subcooling based upon CETCs reads 40°F
- c. ✓ RVLIS Wide Range indicates 40%
- d. RVLIS Narrow Range indicates 50%

ANSWER: C

ORIGINATION DATE: 02/09/01

REVISION DATE:

EXAM/QUIZZES: RO20FRT1;

LESSON PLAN/OBJ: RO- C-EOP10/#9

REFERENCES: RO-C-EOP10 Study Guide pg 25-26; 02-OHP 4023.F-0.2 Rev 4

QUESTIONS REPORT
for NRCQUESTIONS

57. 01EOPC10XX 003/ILT/RO/-/EPE 007 EA1.06/4.4/4.5/2/EOP10 - 11/BANK

Two minutes ago the reactor tripped from 100% power. ES-0.1, Reactor Trip Response, has just been entered. The RO reported that five rod bottom lights are not illuminated and indicate between 15 and 35 steps). In addition:

- All reactor trip and bypass breakers are open,
- Power Range NI's read off-scale low,
- IR startup rate is -0.4 dpm. RCS T_{avg} is 552°F and decreasing.
- AFW system is providing acceptable flow.

In response to this situation, you will:

- a. Return to E-0, Step 1.
- b. ✓ Emergency borate approximately 750 ppm.
- c. Immediately transition to FR-S.1.
- d. Borate to the xenon-free, cold-shutdown boron concentration.

ANSWER: B

ORIGINATION DATE: 10/6/98

REVISION DATE: 10/15/99

EXAM/QUIZZES: Q2406V;

LESSON PLAN/OBJ: RQ-R-2001/#7; RQ-C-2443/#1; RQ-C-2462/#2;

REFERENCES: 01-OHP.4023.ES-0.1 Rev 14a

QUESTIONS REPORT
for NRCQUESTIONS

58. 01EOPC10XX 016/ILT/RO/-/061 G2.4.48/3.5/3.8/2/EOP10 - 30/BANK

The plant is responding to a reactor trip, the cause of which is unknown. Thirty minutes after the trip:

- RCS Tavg is 547°F and stable
- All SG levels are 40%NR and stable
- AFW Flow is 60,000 lbm/hr to each SG

During the next two hours, the AFW flow rate requirements to maintain SG levels constant will decrease. This is caused by:

- a. Xenon concentration building into the core.
- b. Increase in plant thermal efficiency and low steaming rates.
- c. ✓ Decrease in decay heat generation rate.
- d. Reduced steaming rate due to lower condenser vacuum.

ANSWER: C

ORIGINATION DATE: 10/6/98

REVISION DATE:

EXAM/QUIZZES: Q2404D; 2409Q1;

LESSON PLAN/OBJ: RQ-R2001/#7; RQ-C-2443/#1;

REFERENCES: Westinghouse Thermal-Hydraulic Principles and Applications to the Pressurized Water Reactor II, Figure FND-OPS-9, pp 14-17T

QUESTIONS REPORT
for NRCQUESTIONS

59. 01EOPC1206 001/ILT/SRO/- REF REQUIRED/EPE E08 EA1.2/3.6/3.9/2/EOP12.06 - 1/BANK
Which ONE of the following trends addresses all of the required conditions for a Pressurized Thermal Shock (PTS) event? {ASSUME: A pre-existing flaw had been identified.}

- a. Cooldown from 580°F to current RCS temperature of 450°F in last 30 minutes, RCS pressure 1700 psig
- b. Cooldown from 280°F to current RCS temperature of 250°F in last 30 minutes, RCS pressure 600 psig
- c. Cooldown from 375°F to current RCS temperature of 275°F in last 60 minutes, RCS pressure 200 psig
- d. ✓ Cooldown from 480°F to current RCS temperature of 250°F in last 60 minutes, RCS pressure 1200 psig

ANSWER: D
ORIGINATION DATE: 02/15/01
REVISION DATE:
EXAM/QUIZZES: RO20FRT2;
LESSON PLAN/OBJ: RO-C-EOP12/06
REFERENCES: RO-C-EOP12 Study Guide pg. 13; 01-OHP 4023.F-0.4 Rev 4

QUESTIONS REPORT
for NRCQUESTIONS

60. 01EOPC12XX 005/ILT/SRO/-/APE 040 AK1.01/4.1/4.4/2/EOP12 - 20/MODIFIED
Unit 1 is shutdown following a Main Steam Line Break on SG #13 and the following conditions exist:

- SG #13 has been isolated
- SG #13 level is less than 1% WR
- RCS temperature is rising

The crew has transitioned to 01-OHP 4023.ES-1.1, SI Termination. Which ONE of the following actions MUST be taken to prevent over pressurizing the RCS?

- a. Stop both SI and RHR pumps then verify RCS subcooling is maintained less than 40°F until RCS temperature is stabilized.
- b. Establish maximum Letdown flow to minimize RCS inventory recovery until the heatup is stabilized.
- c. Stop the #13 RCP, and maintain pressure control by using the PRZ heaters and normal spray.
- d. ✓ Control non-faulted SG atmospheric steam dump and feed flow to stabilize RCS temperature.

ANSWER: D

ORIGINATION DATE: 2/24/99

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RQ-C-2443/#1

REFERENCES: OHP 4023.ES-1.1 Rev 11

QUESTIONS REPORT
for NRCQUESTIONS

61. 01EPPCXX 021/REQ/RO/-/APE 068 G2.2.4/2.8/3.0/2/AO - 27/BANK

A Unit #2 control room cable vault fire has made control room evacuation imminent. Controls and indications are not functioning sufficiently to enable completion of verification of any of the control room actions of Steps 15 through 23 in 2-OHP 4025.001.001, EMERGENCY REMOTE SHUTDOWN.

Which ONE of the following actions are the HIGHEST priority for local assignment?

- a. Local Reactor Trip (LTI-1-1) and RCS Isolation (LTI-5).
- b. Local Turbine Trip (LTI-1-2) and Main Steam Isolation (LTI-2).
- c. Local Turbine Trip (LTI-1-2) and RCS Isolation (LTI-5).
- d. ✓ Local Reactor Trip (LTI-1-1) and Local Turbine Trip (LTI-1-2).

ANSWER: D

ORIGINATION DATE: 10/7/93

REVISION DATE:

EXAM/QUIZZES: B20E(S)

LESSON PLANS/OBJ: RQ-R-1502/#1;

REFERENCES: 2-OHP-4025.001.001 Rev.3

QUESTIONS REPORT
for NRCQUESTIONS

62. 01NOPS0503 001/REQ/RO/- REF REQUIRED/G2.1.25/2.8/3.1/2/ADM1 - 165/MODIFIED
Following a Unit 1 RCS heatup to 280°F, RHR was removed from service and the "Cold Overpress Block" switches were placed in the "Normal" position.

Which ONE of the following pressures (psig) is the MAXIMUM allowable during the subsequent heatup to MODE 3 conditions? {ASSUME: Mode 3 entry has NOT been authorized.}

- a. 1450
- b. 1550
- c. ✓ 1650
- d. 1750

Answer: C

ORIGINATION DATE: 2/15/99

REVISION DATE: 2/22/00

EXAM/QUIZZES: Q2401D; Q2401A; R2324B-A3B;

LESSON PLAN/OBJ: RQ-C-2412/#1;

REFERENCES: 01-OHP 4021.001.001 Rev 28; OHI 6100 Att #1 Rev 4

MODIFIED

QUESTIONS REPORT
for NRCQUESTIONS

63. 01PRAC103 002/ILT/RO/-/G2.2.17/2.3/3.5/1/ADM1 - 241/BANK

Which ONE of the following components is a Vital Secondary Equipment with respect to On-Line Risk Management?

- a. Diesel Driven Fire Pump
- b. ✓ Service Water Screen Wash Pump
- c. Emergency Diesel Generator Fuel Oil Transfer Pump
- d. Critical Control Room Power Inverter

ANSWER: B

ORIGINATION DATE: 8/30/00

REVISION DATE:

EXAM/QUIZZES: RO21ADM;

LESSON PLAN/OBJ: RO-C-PRA1/#3 Rev 1;

REFERENCES: PMP-2291.OLR.001 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

64. 01TS0C117 002/ILT/RO/-/G2.1.4/2.3/3.4/2/TS - 96/BANK

With the number of fire brigade members one less than that required by procedure, restore the fire brigade to full membership within _____ hour(s).

- a. one
- b. two
- c. four
- d. eight

ANSWER: B

ORIGINATION DATE: 8/17/94

REVISION DATE: 2/3/00

EXAM/QUIZZES: RO1821;

LESSON PLAN/OBJ: RO-C-TS01/#17;

REFERENCES: Tech Spec 6.2.2.e: ATR 1-FP-8 Rev 5

QUESTIONS REPORT
for NRCQUESTIONS

65. 01TS0C1XX 002/ILT/RO/-/APE 076 AA2.07/2.4/2.7/2/TS - 48/BANK

Following a planned RCS crud burst on Unit 2, the operators have maximized letdown flow through the mixed bed demineralizer.

Which ONE of the following conditions would indicate a need to switch mixed bed demineralizer resin in use for continued cleanup of the RCS?

- a. Chemistry reports that the demineralizer Decontamination Factor (DF) value has risen significantly since the last sample.
- b. ✓ Rising levels or High alarm on radiation monitor ERA-8309, U2 Reactor Coolant Filter Room.
- c. Chemistry reports that the RCS pH value has risen significantly since the last sample.
- d. Lowering RCS temperature with no operator action to change rod position or add makeup to the RCS.

ANSWER: B

ORIGINATION DATE: 6/1/92

REVISION DATE:

EXAM/QUIZZES: RO14 NRC EXAM(426); Q2503E;

LESSON PLAN/OBJ: RO-C-TS01; RO-C-NS2A(28);

REFERENCES: 01-OHP 4021.004.001 Rev 5; 12-OHP 4024.139 Drop 45 Rev 9

QUESTIONS REPORT
for NRCQUESTIONS

66. 01TS0C1XX 017/ILT/RO/- REF REQUIRED/025 K6.01/3.4/3.6/2/TS - 78/BANK

The Unit-2 Ice Condenser Inlet Door Position Monitoring System was declared inoperable at 10:00 am while at 95% power. Which ONE of the following actions MUST be satisfied to continue operations at power?

- a. ✓ Monitor the ice bed temperature less than or equal to 27°F by 2:00 pm and every 4 hours thereafter for a maximum of 14 days.
- b. Monitor the ice bed temperature less than or equal to 20°F by 4:00 pm and every 6 hours thereafter for a maximum of 30 days.
- c. Verify the doors are closed before 11:00 am by visual inspection and every 8 hours thereafter for a maximum of 14 days.
- d. Verify the doors are closed before 4:00 pm by visual inspection and maintain ice bed temperature less than 27°F for a maximum of 7 days.

ANSWER: A

ORIGINATION DATE: 1/30/93

REVISION DATE: 2/3/00

EXAM/QUIZZES: RO16 NRC EXAM RETAKE(739);

LESSON PLAN/OBJ: RO-C-TS01(61); RO-C-NS14/10(21);

REFERENCES: Tech Spec 3.6.5.3

QUESTIONS REPORT
for NRCQUESTIONS

67. 02AOPS1117 002/REQ/RO/-/APE 033 G2.4.4/4.0/4.3/2/NI - 20/BANK

A Unit 1 reactor startup was in progress with power at 1×10^{-8} amps when Intermediate Range Channel I (N35) level indication started to spuriously spike low. I&E was notified and they subsequently determined that N35 should be declared inoperable.

Which ONE of the following statements describes the impact on the reactor startup?

- a. The Unit must immediately be shutdown to Hot Standby.
- b. No impact since power is currently above P-6.
- c. The reactor must be manually tripped and go to E-O.
- d. N 35 must be restored to operable status prior to increasing power above 5%.

ANSWER: D

ORIGINATION DATE: 6/3/98

REVISION DATE: 1/14/00

EXAM/QUIZZES: R911916; Q2302D; Q2302E; Q2302MU; Q2408B; Q2408D;

LESSON PLAN/OBJ: RO-C-NS09/#10; RQ-C-2321/#4; RQ-C-2482/#5;

REFERENCES: Tech Spec Table 3.3-1

QUESTIONS REPORT
for NRCQUESTIONS

68. 02EPPC0307 005/ILT REQ/SRO/- REF REQUIRED/G2.4.44/2.1/4.0/2/EP - 70/MODIFIED

The Shift Manager has declared a General Emergency. The wind is blowing from 355° and NO release is in progress.

Which ONE of the following Evacuation Area(s) must be included in the Protective Action Recommendation?

- a. ✓ 1 and 3
- b. 1 only
- c. 1, 2 and 3
- d. 1 and 2

ANSWER: A

ORIGINATION DATE: 6/6/01

REVISION DATE:

EXAM/QUIZZES: RQ2603E;

LESSON PLAN/OBJ: RQ-C-2630/#1;

REFERENCES: PMP 2080-EPP-100 Att 1 Rev 0

MODIFIED

QUESTIONS REPORT
for NRCQUESTIONS

69. 12AOPS1002 001/ILT/RO/-/APE 051 AA2.02/3.9/4.1/2/MT1 - 53/MODIFIED
The following conditions exist on Unit 1:

- Turbine load is 100 MWe and slowly rising
- Two Circ Water pumps are running
- Condenser Vacuum is 25.0 inches Hg and slowly lowering
- Annunciator Panel 118 Drop 36, Exhaust Hood Temp High, alarm is LIT
- Annunciator Panel 118 Drop 37, Exhaust Hood Spray Operating, alarm is LIT

Which ONE of these following operator actions should be taken FIRST in regard to continued turbine operation?

- a. Manually trip the turbine
- b. ✓ Increase circulating water flow
- c. Reduce turbine loading
- d. Fully OPEN valve 1-SMO-400, STM to Startup SJAE

ANSWER: B

ORIGINATION DATE: 7/6/92

REVISION DATE:

EXAM/QUIZZES: RO16 AUDIT EXAMNRC(585);

LESSON PLAN/OBJ: RO-C-PG4A;

REFERENCES: 01-OHP 4022.001.006 Rev 26

QUESTIONS REPORT
for NRCQUESTIONS

70. 12EOPC0818 014/REQ/RO/-/EPE 038 EA2.07/4.4/4.8/2/EOP23 - 30/BANK
Procedure ECA 3.1, SGTR with Loss of Reactor Coolant - Subcooled Recovery
Desired, is being implemented. The ECCS flow reduction steps are in progress. The
crew is deciding whether the BIT can be isolated and normal charging flow established.

The following conditions exist:

- RVLIS Pressure: 985 psig;
- PRZ Level: 50%;
- Containment Pressure: 1.5 psig;
- Both SI Pumps: Stopped;
- CCP Status: One running.

Which one of the following temperatures is the HIGHEST value that will meet
MINIMUM subcooling requirements under these circumstances?

- a. 544°F
- b. 524°F
- c. ✓ 504°F
- d. 484°F

ANSWER: C

ORIGINATION DATE: 9/7/95

REVISION DATE:

EXAM/QUIZZES: Q1906D; Q1906E; Q19INST;

LESSON PLAN/OBJ: RQ-R-1906/#7; RO-C-EOP08/#18;

REFERENCES: OHP 4023.ECA-3.1 Rev 4b

QUESTIONS REPORT
for NRCQUESTIONS

71. 12EOPC0922 005/REQ/RO/-/EPE E16 EK2.1/3.0/3.3/2/EOP11 - 18/BANK

The following plant conditions exist on Unit 1 following a small break LOCA:

- RCS pressure and temperature are stable at 600 psig and 490°F;
- RWST level has decreased to 25%;
- All Containment Pressure High and Hi-Hi status lights are clear;
- Containment radiation levels have risen two decades above normal readings.

The ECCS pumps will be able to continue providing cool water to the core because:

- a. adequate water remains in the RWST to cool and depressurize the RCS to less than 350°F and 363 psig and to then initiate RHR cooling.
- b. the RHR pumps will be re-aligned to take suction on the recirculation sump and provide cooled water to the RCS hot legs where the pressure is lower.
- c. ✓ the RHR pumps will be re-aligned to take suction on the recirculation sump and provide cooled water to the centrifugal charging and SI pumps which will inject into the cold legs.
- d. the RHR pumps will be re-aligned to take suction on the RCS Hot legs and pump cooled water back to the RCS cold legs.

ANSWER: C

ORIGINATION DATE: 11/23/98

REVISION DATE:

EXAM/QUIZZES: Q1902C; Q2404A;

LESSON PLAN/OBJ: RQ-R-2001/#7; RQ-R-1902/#6; RO-C-ER09; RQ-C-2443/#1;

REFERENCES: 01-OHP 4023.E-1 Foldout Page; SD-00800 Rev 1; RO-C-EOP05 Study Guide Rev 0

QUESTIONS REPORT
for NRCQUESTIONS

72. 12EOPC1307 001/ILT REQ/RO/-/EPE E14 EK3.2/3.1/3.7/2/EOP18 - 9/MODIFIED
During implementation of OHP 4023.FR-Z.1, Response to High Containment Pressure, the operators are directed to monitor for Spray Additive Tank flow indication. The reason for this monitoring is that the spray additive tank outlet valves:

- a. are closed automatically on a low level condition.
- b. ✓ may have been manually closed by a previous procedure.
- c. and eductor supply valves must be closed manually if no flow is indicated.
- d. and eductor supply valves open and continued flow will result in nitrogen injection and a lower recirculation sump pH.

ANSWER: B

ORIGINATION DATE: 12/1/99

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RQ-R-2001/#7; RO-C-NS13; RQ-C-2476/#3;

REFERENCES: 02 OHP 4021.FR-Z.1 Rev 5; 12-OHP 4023.FR-Z.1 PSBD Rev 0

QUESTIONS REPORT
for NRCQUESTIONS

73. 12EPPC0303 002/ILT REQ/SRO/-/G2.4.29/2.6;4.0/1/EP - 12/MODIFIED

Following the declaration of an Emergency Plan accident classified as an ALERT, the SEC must FAX a plant update to the Berrien County sheriff's office every ____ minutes until relieved by the EOF.

- a. ✓ 15
- b. 30
- c. 45
- d. 60

ANSWER: A

ORIGINATION DATE: 11/20/98

REVISION DATE:

EXAM/QUIZZES: S1700B1; 1507G; S1700B6; 1800B4; QEPP; Q2002E; Q2002C; Q2002NV; Q2306A;
AE2306E; QR2306B; QS2306B; QR2306MU;

LESSON PLAN/OBJ: RQ-R-2002/#10; RQ-C-2364/#3, 8; ST-C-EP04/#5; RO21EOP1;

REFERENCES: PMP 2080.EPP.107 Rev 15a

MODIFIED

QUESTIONS REPORT
for NRCQUESTIONS

74. 12EPPC0702 001/ILT REQ/SRO/-/APE 060 G2.3.11/2.7/3.2/2/EP - 68/BANK

A gaseous release from the auxiliary building is indicated on the same channel of both unit vent monitors.

Which ONE of the following describes the flow rate that should be input into the Dose Assessment Program in order to predict the resulting radiological exposure?

- a. Sample flow of the highest reading vent monitor.
- b. Vent flow of the highest reading vent monitor.
- c. Sum of the sample flow rates through the vent monitors.
- d. ✓ Sum of the vent flow rates being monitored.

ANSWER:D

ORIGINATION DATE: 11/7/00

REVISION DATE:

EXAM/QUIZZES: RO20EP1; RO21EOP1;

LESSON PLAN/OBJ: ST-C-EP07/#2;

REFERENCES: PMP 2080.EPP.108 Rev 3

QUESTIONS REPORT
for NRCQUESTIONS

75. AS18 003/NLO/AEO/-/086 K5.04/2.9/3.5/1/ABV - 28/BANK

Which ONE of the following areas can be entered for maintenance activities without isolating the CO2 for that area?

- a. Diesel Generator Rooms
- b. 4KV Switchgear Room
- c. ✓ Plant Heating Boiler Room
- d. Reactor Cable Tunnel

ANSWER: C

ORIGINATION DATE: 5/3/99

REVISION DATE:

EXAM/QUIZZES: UO9922COMP; UO992224C; UO992CMU

LESSON PLAN/OBJ: UO-C-AS18/#1

REFERENCES: SD-12-COAUX-100 Rev 0

QUESTIONS REPORT
for NRC QUESTIONS

76. NEW 001/ILT/SRO/-/APE 005 AA2.03/3.5/4.4/2//NEW

During Unit 1 power ascension, the crew entered 01-OHP 4022.012.005, Dropped or Misaligned Rod, procedure and the following conditions exist:

- Reactor Power is 71% and Stable
- Rod Control is in MANUAL
- Control Rod B6 (CBD) is located at 184 steps
- Control Bank D rod group is located at 206 steps

The RO has been directed to insert Control Bank D rods to 184 steps. Which ONE of the following operator actions is required upon confirmation that a Control Rod C5 (CBA) rod bottom light ON indicator is valid following the start of rod insertion?

- a. Perform an Incore Flux Mapping and Reduce power to less than 50%.
- b. ✓ Manually trip the reactor and enter 01-OHP 4023.E-0 actions.
- c. Verify Shutdown Margin requirements of Tech Spec 3.1.1.1 is satisfied.
- d. Verify all rod position indicators for Control Bank A are OPERABLE.

ANSWER: B

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 01-OHP 4022.012.005 Rev 9

QUESTIONS REPORT
for NRCQUESTIONS

77. NEW 002/ILT/SRO/-/APE 015 AA2.08/3.4/3.5/2//NEW

Unit 2 Reactor Startup is in progress and the following conditions exist:

- Reactor Power is 2E-10 amps and rising.
- Annunciator Panel 207 Drop 62, RCP 3 Bearing Temp High, is alarming
- Annunciator Panel 207 Drop 63, RCP 3 BRG Seal Water Temp High, is alarming
- RCP No. 3 Lower Bearing water temperature is 228°F and rising.
- RCP No. 3 Motor Bearing temperature is 174°F and stable.
- RCP No. 3 Seal Leakoff temperature is 175°F and stable.
- RCP No. 3 Seal Injection Flow is 10 gpm.

Which ONE of the following operator actions MUST be taken based upon these conditions?

- a. Initiate reactor shutdown per 02-OHP 4021.001.003, Power Reduction.
- b. Contact Operations Manager to determine if continued RCP operation is allowed.
- c. Trip the No. 3 RCP and close the No. 1 seal leakoff valve.
- d. ✓ Manually trip the reactor, Enter 02-OHP 4023.E-0 actions, then trip the No. 3 RCP.

ANSWER: D

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 02-OHP 4022.002.001 Rev 9

QUESTIONS REPORT
for NRCQUESTIONS

78. NEW 003/ILT/SRO/-/EPE 055 EK1.01/3.3/3.7/2//NEW

Unit 1 has entered 01-OHP 4023.ECA-0.0, Loss of ALL AC Power, procedure and the following conditions exist:

- Unit 2 CD Diesel Generator is supplying its vital loads.
- Unit 2 AB Diesel Generator is supplying its vital loads.
- Unit 1 CD Diesel Generator failed to start due to a broken injector linkage.
- Unit 1 AB Diesel Generator is Out of Service for repairs.

Which ONE of the following Non-Essential DC loads must be shed within one hour to extend battery availability?

- a. ✓ Main turbine emergency bearing oil pump
- b. Turbine Driven Auxiliary Feed pump bearing oil pump
- c. West Fire pump bearing oil pump
- d. East Fire pump bearing oil pump

ANSWER: A

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 01-OHP 4023.ECA-0.0 Rev 11a

QUESTIONS REPORT
for NRCQUESTIONS

79. NEW 004/ILT/SRO/-/EPE E02 EK1.3/3.5/3.8/2//NEW

Unit 2 has entered 02-OHP 4023.ES-1.1, SI Termination, procedure following a SBLOCA event. The following conditions exist:

- SI signal is RESET
- Containment Isolation Phase A is RESET
- East Charging pump is running and aligned for normal charging (130 gpm)
- West Charging pump is Red Tagged Out of Service
- RCS Subcooling is 40°F and stable
- Pressurizer level is 27% and slowly rising
- Containment Pressure is 1.3 psig and lowering

Following a fault on Bus T21D, which ONE of the following procedure transitions would be required?

- a. 4023.ECA-1.1, Loss of Emergency Coolant Recirculation
- b. 4023.E-0, Reactor Trip or Safety Injection
- c. 4023.ES-1.2, Post LOCA Cooldown and Depressurization
- d. ✓ 4023.SUPP.002, Restoration of Reserve Power to 4KV Buses

ANSWER: D

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 02-OHP 4023.ES-1.1 Rev 11

QUESTIONS REPORT
for NRCQUESTIONS

80. NEW 005/ILT/SRO/-/EPE E07 EA1.1/3.6/3.6/2//NEW

Unit 1 has entered 01-OHP 4023.ECA-3.2, SGTR with Loss of Reactor Coolant - Saturated Recovery Desired, procedure following an event and the following conditions exist:

- RCS Tave is 552°F and lowering
- SG No. 2 is isolated with level at 65%NR and slowly rising
- RCS cooldown is in progress using Condenser Steam Dumps (1.6E+6 pph flow)
- RWST level is 55% and lowering
- Pressurizer level is 30% and slowly rising

Which ONE of the following conditions will occur FIRST with NO operator action as the RCS is cooled down to Cold Shutdown conditions? {ASSUME: Cooldown in effect ONLY}

- a. Overfill of the Pressurizer (level HIGH)
- b. Voiding in the Reactor Head
- c. Cold leg recirculation switchover
- d. ✓ Steamline Isolation

ANSWER: D

ORINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 01-OHP 4023.ECA-3.2 Rev 4

QUESTIONS REPORT
for NRCQUESTIONS

81. NEW 006/ILT/SRO/-/APE 026 G2.4.49/4.0/4.0/2//NEW

Unit 2 is in Cold Shutdown condition and the following conditions exist:

- RCS Temperature is 210°F and stable
- East RHR pump is NOT running
- West RHR pump is running
- East CCW pump is running
- West CCW pump is Red Tagged out-of-service
- Annunciator Panel 220 Drop 86, 4KV BUS T21D CB T21D1 TRIP, is alarming
- Annunciator Panel 220 Drop 51, DG2CD DIFFERENTIAL OPERATED, is alarming

Which ONE of the following operator actions MUST be performed?

- a. Minimize Charging and Letdown flow to control Pressurizer level at 45%.
- b. ✓ Stop the West RHR pump and CLOSE the West Heat Exchanger's CCW outlet valve.
- c. Maximize Auxiliary Spray to the Pressurizer to provide RCS cooling.
- d. Split the East and West CCW trains, and isolate the Miscellaneous header.

ANSWER: B

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 02-OHP 4022.017.001 Rev 12a

QUESTIONS REPORT
for NRCQUESTIONS

82. NEW 007/ILT/SRO/-/APE 036 AK2.02/3.4/3.9/2//NEW

As the Unit 1 Supervisor, which ONE of the following radiation monitors in HIGH alarm would be an entry condition for 12-OHP 4022.018.004, Irradiated Fuel Handling Accident in Containment Building - Control Room Actions?

- a. R-7, Lower CNTMT Instrument Area Radiation
- b. R-5, AUX BLDG 650 Elevation SFP Area Radiation Control
- c. ERS-7401, Control Room Radiation
- d. ✓ VRS-1500, Unit Vent Effluent

ANSWER: D

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 12-OHP 4022.018.004 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

83. NEW 008/ILT/SRO/-/014 K3.02/2.5/2.8/2//NEW

Which ONE of the following Plant Process Computer program failures will cause annunciator Panel 211 Drop 50, PPC Program Failure, to alarm?

- a. Plant and Instrumentation Drawings
- b. Feedwater Inlet Temperatures
- c. ✓ Rod Insertion Limit
- d. Tilting Factors

ANSWER: C

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 02-OHP 4024.211 Drop 50 Rev 6, CS-2; PPC program Printout

QUESTIONS REPORT
for NRCQUESTIONS

84. NEW 009/ILT/SRO/-/013 A1.10/3.4/3.7/2//NEW

Unit 1 has a LOCA event in progress and the following conditions exist just after the reactor trip:

- Steam Flow (Total) is 6.1E+6 PPH
- Containment Pressure is 2.2 psig (Peak Value) and lowering
- Containment Radiation is 100 mRem and stable
- Steam Header Pressure is 580 psig and slowly lowering
- RCS Tave is 539°F and lowering

Which ONE of the following trip setpoints has been satisfied and will cause a Steam Line Isolation signal to be generated?

- a. ✓ High Steam Flow coincident with Low-Low Tave
- b. Containment Pressure High-High
- c. Steam Line Pressure Low
- d. Containment Radioactivity High

ANSWER: A

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: Tech Spec Table 3.3-4 (U1)

QUESTIONS REPORT
for NRCQUESTIONS

85. NEW 010/ILT/SRO/-/APE 059 G2.1.23/3.9/4.0/2//NEW
Attachment No. 3 of 12-OHP 4021.006.004, Transferring Distillate From Monitor Tanks, was implemented for a Monitor Tank No. 2 release to the Circulating Water system. The release is in progress.

Which ONE of the following monitors with a valid alarm will result in an automatic TERMINATION of the release?

- a. Channel Failure on RRA-1003, Local Area Monitor
- b. Channel Failure on RRS-1001, Effluent Header Sample Monitor
- c. Low Flow on RFS-1010, Sample Flow Monitor
- d. High Flow on RRR-1002, Sample Flow Monitor

ANSWER: B

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 12-OHP 4021.006.004, ATT 3 Rev 24d; 12-OHP 4024.139 Drop 47 Rev 9

QUESTIONS REPORT
for NRCQUESTIONS

86. NEW 011/ILT/SRO/-/026 A2.03/4.1/4.4/2//NEW

A Unit 1 LOCA event is in progress. Immediately following the verification of a reactor/turbine trip, the BOP reports the following conditions exist:

- Containment Pressure is 4.5 psig and rising
- East CTS pump is RUNNING with its discharge valves indicating open
- West CTS pump is NOT RUNNING
- Spray Additive Tank flow (IFI-200) indicates ZERO
- RWST Level is 95% and slowly lowering
- Main Steam Stop Valves are CLOSED
- CTS monitor lights on 1-SML-9A are LIT
- CTS monitor lights on 1-SML-9B are NOT LIT

Which ONE of the following MANUAL operator actions is required NEXT?
{ASSUME: All required automatic signals have been activated.}

- a. Perform OHP 4023.SUP.004, Phase B Isolation Checklist.
- b. Depress Containment Isolation Phase A actuation pushbutton(s).
- c. Depress Containment Spray actuation pushbutton(s).
- d. ✓ Open the West CTS pump's discharge valves and start the pump.

ANSWER: D

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 01-OHP 4023.E-0 Rev 15a

QUESTIONS REPORT
for NRCQUESTIONS

87. NEW 012/ILT/RO/-/061 K2.02/3.7/3.7/1//NEW

The following conditions exist on Unit 1:

RCP Bus 1A is Red Tagged out-of-service
Emergency Diesel 1CD is unavailable due to testing

Which ONE of the following energized sources would be aligned FIRST to allow start of the West MD AFW pump for feeding SGs?

- a. Emergency Diesel 1AB
- b. Emergency Feed Transformer (12EP1)
- c. RCP Bus 1B
- d. RCP Bus 1C

ANSWER: A

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: SOD-08201-001 Rev 1

QUESTIONS REPORT
for NRCQUESTIONS

88. NEW 013/ILT/SRO/-/071 A3.03/3.6/3.8/2//NEW

A planned release of radioactive gas is in progress from Gas Decay Tank No. 3.

Which ONE of the following radiation monitoring channels in HIGH alarm will result in a automatic TERMINATION of the release in progress?

- a. ✓ VRS-1505, Low Range Noble Gas Monitor
- b. VRS-1509, High Range Noble Gas Monitor
- c. VRA-2501, Beta Particle Monitor
- d. VRA-2503, Iodine-131 Monitor

ANSWER: A

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 12-OHP 4024.139 Drop 17 & 34 Rev 9; 12-OHP 4021.023.002 Rev17a

QUESTIONS REPORT
for NRCQUESTIONS

89. NEW 014/ILT/SRO/-/072 A3.01/2.9/3.1/2//NEW

Which ONE of the following radiation monitoring channels will close valves VCR-101 to 107 and trip the HV-CIPS-1 fan on a HIGH alarm?

- a. VRA-1410, Lower Containment Area - High Range
- b. VRA-1310, Lower Containment Area - High Range
- c. VRS-1201, Upper Containment Area - Normal Range
- d. ✓ VRS-1101, Upper Containment Area - Normal Range

ANSWER: D

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 12-OHP 4021.013.006 Rev 4a

QUESTIONS REPORT
for NRCQUESTIONS

90. NEW 015/ILT/SRO/-/063 K1.02/2.7/3.2/2//NEW

Which ONE of the following conditions will cause the 1-CRID-2 Inverter to automatically switch to its alternate power supply?

- a. Output Voltage ZERO
- b. Circuit Breaker - CB2 CLOSED
- c. ✓ DC voltage HIGH
- d. Inverter Fan OFF

ANSWER: C

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 01-OHP 4024.120 Drop 30 Rev 10

QUESTIONS REPORT
for NRCQUESTIONS

91. NEW 016/ILT/SRO/-/072 K5.02/2.5/3.2/2//NEW

Radiography is in progress in the Auxiliary Building at the 633 Elevation. The local area radiation monitor ERA-7605 is reading 10 mRem/hr above background when the source is EXPOSED. The exposed source is located 50 feet from the monitor.

Which ONE of the following distances (in feet) from the source would cause a reading of 35 mRem above background?

- a. 25.5
- b.✓ 27.0
- c. 28.5
- d. 30.0

ANSWER: B

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 12-OHP 4021.013.006 Rev 4a

QUESTIONS REPORT
for NRCQUESTIONS

92. NEW 017/ILT/SRO/-/017 K4.01/3.4/3.7/2//NEW

The RO is monitoring RCS Subcooling during a cooldown to Cold Shutdown when the INCORE T/C CHANNEL-1 VOLT FAILURE alarm is received.

Which ONE of the following list the total number of thermocouple detectors providing input to the Saturation Meter?

- a. ✓ Four (One per core quadrant)
- b. Eight (Two per core quadrant)
- c. Four (Two in quadrant-1 and Two in quadrant-4)
- d. Eight (Four in quadrant-1 and Four in quadrant-4)

ANSWER: A

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: Elementry Diagrams OP-2-98338-19 & OP-2-985722-5; 02-OHP 4024.207 Drop 48

QUESTIONS REPORT
for NRCQUESTIONS

93. NEW 018/ILT/SRO/- REF REQUIRED/028 G2.4.47/3.4/3.7/2//NEW

Some six hours following a LOCA event on Unit 1, the crew checked for Containment Hydrogen and identified a concentration of 0.4% still remained. The Hydrogen Recombiner system was placed in service with the No. 2 recombinaer as primary and the No. 1 recombinaer in standby.

Which ONE of the following power (KW) settings is required for a post-accident containment pressure of 3.5 psig?

- a. 54.4
- b. 55.0
- c. ✓ 55.4
- d. 56.0

ANSWER: C

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 01-OHP 4023-Supp.05 Rev 1; 01-OHP 4023-E.1 Rev 8

QUESTIONS REPORT
for NRCQUESTIONS

94. NEW 019/ILT/SRO/-/055 K3.01/2.5/2.7/2//NEW

A Unit 2 power ascension is in progress and the following conditions exist:

- Reactor Power is 60% and rising
- Both Main Feedwater pumps are running
- Both Heater Drain pumps are running
- Annunciator SJAE COOLING WATER DP LOW alarm is LIT

Which ONE of the following plant effects would occur as power is raised to 100% with NO operator response to the alarm?

- a. No effect on condenser vacuum or plant efficiency
- b. Improved condenser vacuum and plant efficiency
- c. Improved condenser vacuum but reduced plant efficiency
- d. ✓ Worsened condenser vacuum and potential turbine trip

ANSWER: D

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 02-OHP 4024.218 Drop 12 Rev 8; 02-OHP 4024.216 Drop 52 Rev 7

QUESTIONS REPORT
for NRCQUESTIONS

95. NEW 020/ILT/SRO/-/G2.2.23/2.6/3.8/2//NEW

A Technical Specification Limiting Condition for Operation (LCO) could not be followed as written and a Condition Report was written. The onshift STA evaluation determined that an OPERABILITY determination evaluation was required in accordance with PMP-7030.OPR.001, Operability Determination.

Which ONE of the following processes would PRIMARILLY be used to document and track the status of the LCO review?

- a. Corrective Action Request Tracking Card
- b. ✓ Electronic Corrective Actions Process database
- c. Operability Determination Form (Data Sheet 1)
- d. Nuclear Document Management database

ANSWER: B

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: PMP-7030.OPR.001 Rev 4

QUESTIONS REPORT
for NRCQUESTIONS

96. NEW 021/ILT/SRO/-/G2.3.2/2.5/2.9/1//NEW

An ALARA review is in progress to support pre-job planning for repair on the East Containment Spray pump. Which ONE of the following conditions will require an ALARA Committee review prior to issuance of the RWP?

- a. High Radiation Area entry required
- b. Temporary shielding to reduce Hot Spots required
- c. Estimated 2.5 person-Rem TEDE
- d. ✓ Estimated 5.5 person-Rem TEDE

ANSWER: D

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: PMP-6010.ALA.001 Rev 11

QUESTIONS REPORT
for NRCQUESTIONS

97. NEW 022/ILT/SRO/-/G2.3.4/2.5/3.1/1/NEW

Prior to entering the Auxiliary Building for a tour, you identify a limited access area as having the following readings:

- Surface Contamination Level of 80 dpm/100 cm squared ALPHA
- General Area Radiation Level of 1200 mRem
- Airborne Radioactivity Level of 7 DAC-hours

Which ONE of the following area postings should be displayed at the entrance to this area?

- a. ✓ Locked High Radiation and Contamination Area
- b. Very High Radiation and Airborne Area
- c. High Radiation and Contamination Area
- d. Very High Radiation, Contamination and Airborne Area

ANSWER: A

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: PMI-6010 Rev 11a

QUESTIONS REPORT
for NRCQUESTIONS

98. NEW 023/ILT/SRO/-/068 K4.01/3.4/4.1/1//NEW

While touring the Auxiliary Building, an AEO notices a large pool of liquid around the Glycol Expansion Tank overflow. The SM was notified of the spill.

Which ONE of the following precautions/actions should be taken at a MINIMUM when handling the liquid?

- a. Don Chemical Gloves and Chemical Resistant Apron during cleanup.
- b. ✓ Don Eye Protection and Chemical Gloves during cleanup.
- c. Obtain general area radiation surveys prior to and during cleanup.
- d. Obtain Chemistry analysis of liquid prior to cleanup.

ANSWER: B

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: PMP-6090.PCP.100 Rev 2a; PMP-2160.CWM.002 Rev 5 (WSMF #9)

QUESTIONS REPORT
for NRCQUESTIONS

99. NEW 024/ILT/SRO/-/005 G2.4.18/2.7/3.6/1//NEW

The operators are performing OHP-4023.ECA-2.1, Uncontrolled Depressurization of All Steam Generators. Step 6 asks the operator to check if RHR pumps should be stopped.

Which ONE of the following reasons is a basis for stopping all running RHR pumps, if RCS pressure is greater than 300 psig and stable?

- a. To minimize the thermal stresses on RCS piping during depressurization.
- b. To promote the continued plant cooldown and depressurization in progress.
- c. To limit additional injection of RWST water into the RCS following SG blowdown.
- d. ✓ To prevent potential damage due to heat up if CCW flow is not available.

ANSWER: D

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 12-OHP 4023.ECA-2.1 Background Document

QUESTIONS REPORT
for NRCQUESTIONS

100. NEW 025/ILT/RO/-/APE 008 AA2.19/3.4/3.6/2/PZPC - 3/NEW

Unit 2 is heating up from Cold Shutdown conditions. The RO has placed ALL available PRZ heaters in service to raise pressure with the following conditions:

- PRZ Pressure control in MANUAL and set at 1.0%
- RHR system in service
- PRZ PORV NRV-152 set for overpressure protection
- PRZ PORV NRV-153 is out-of-service for maintenance
- Annunciator Panel 219 Drop 30, CRID 4 Inverter Abnormal, is LIT

Which ONE of the following pressures represents the MAXIMUM value that pressure will reach under these conditions? {ASSUME: NO operator action.}

- a. 430 psig
- b. ✓ 450 psig
- c. 1000 psig
- d. 2485 psig

ANSWER: B

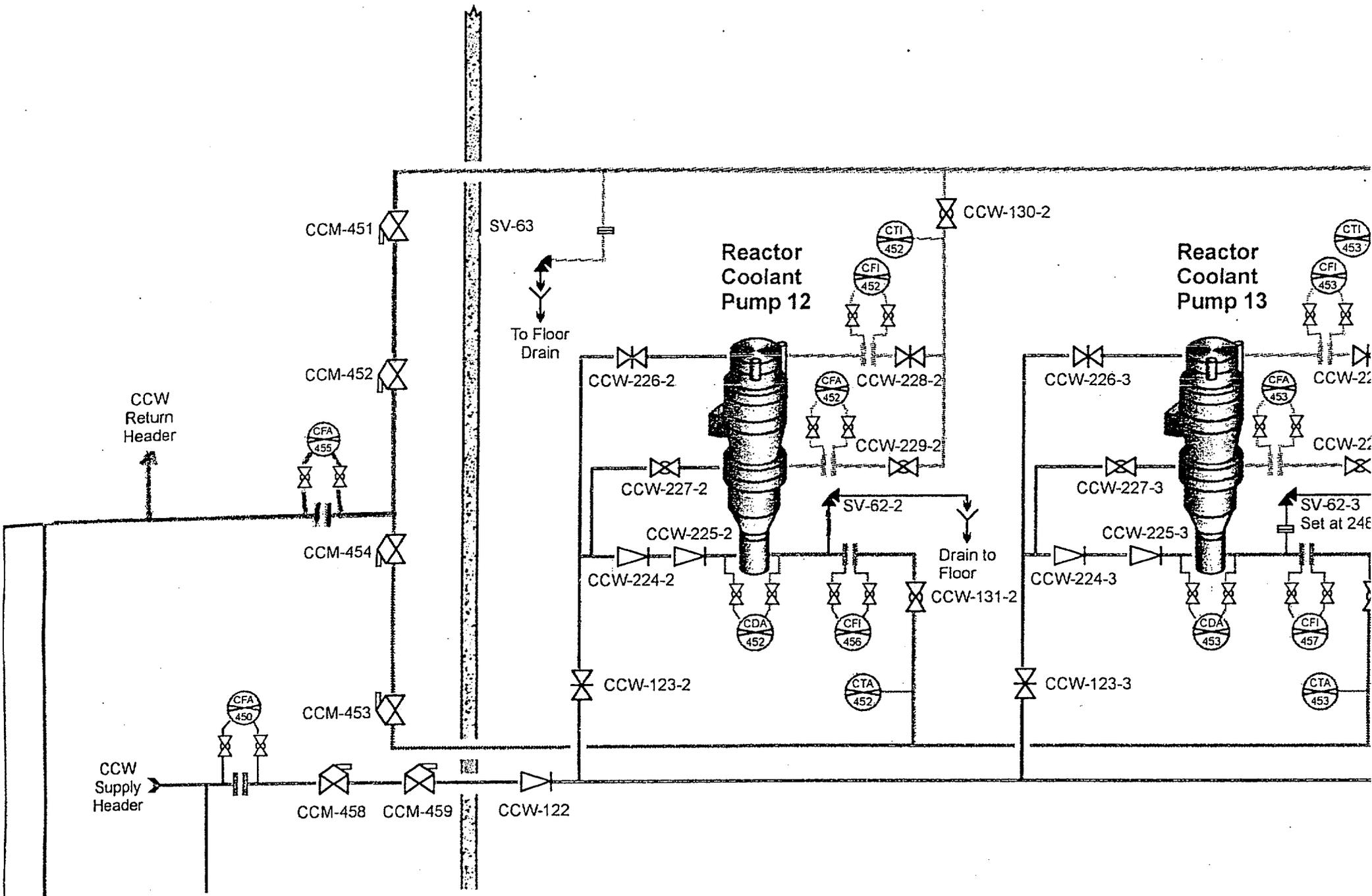
ORIGINATION DATE: 7/31/01

REVISION DATE:

EXAM/QUIZZES:

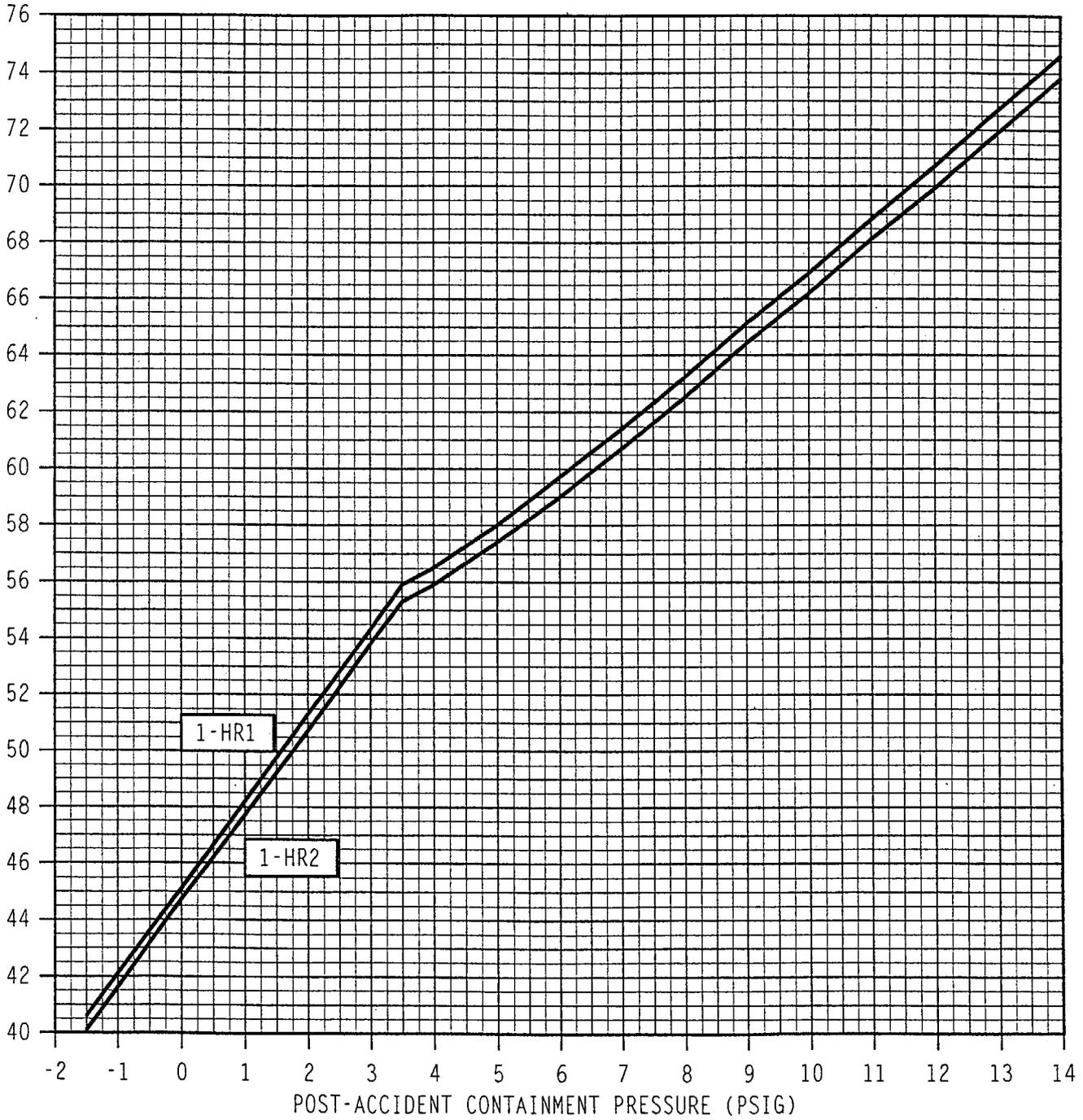
LESSON PLAN/OBJ:

REFERENCES: SOD-00202-001 Rev 1

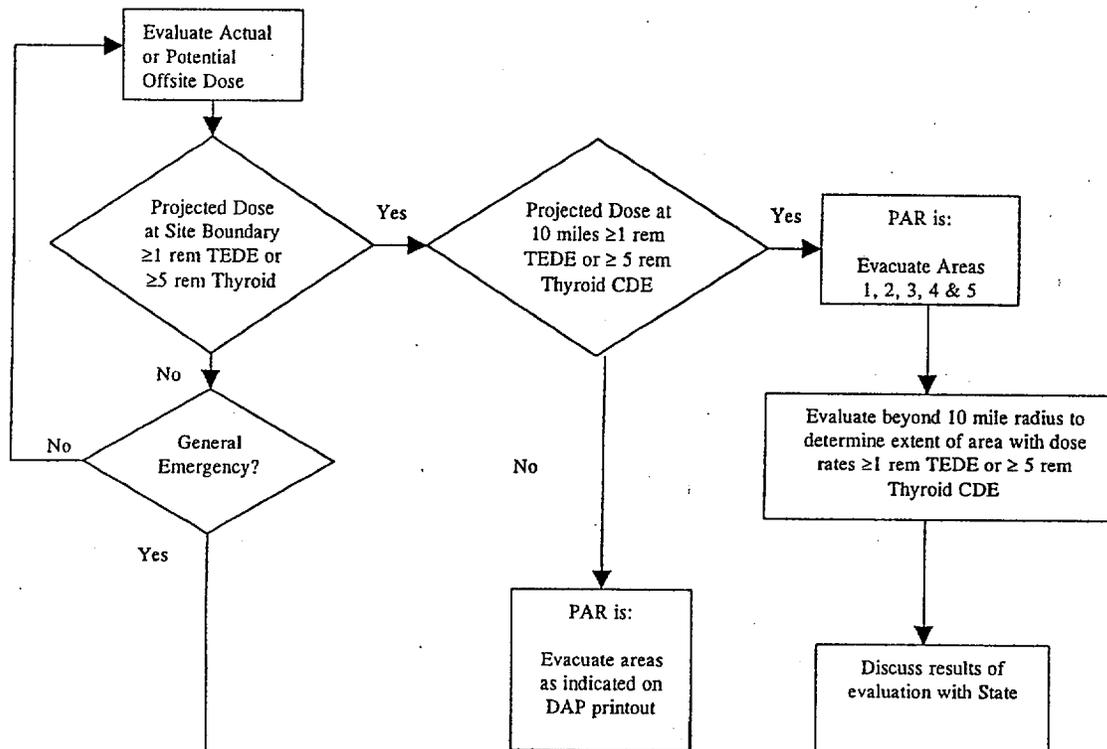


**Figure 1
Hydrogen Recombiner Power Setting**

HEATER POWER TARGET VALUE (KW)

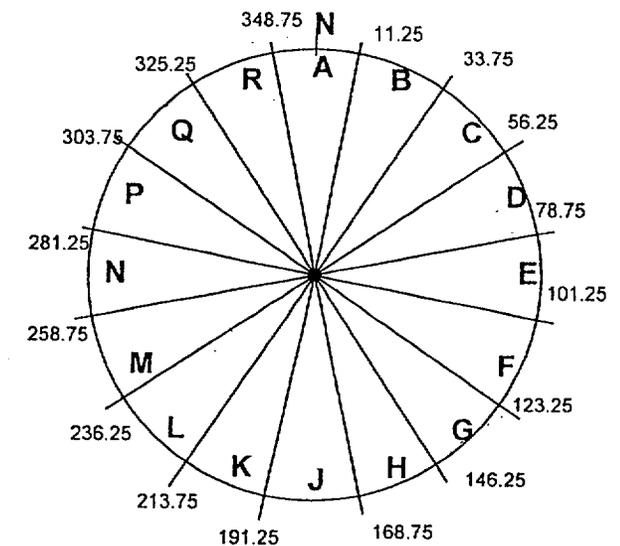


-END OF FIGURE-



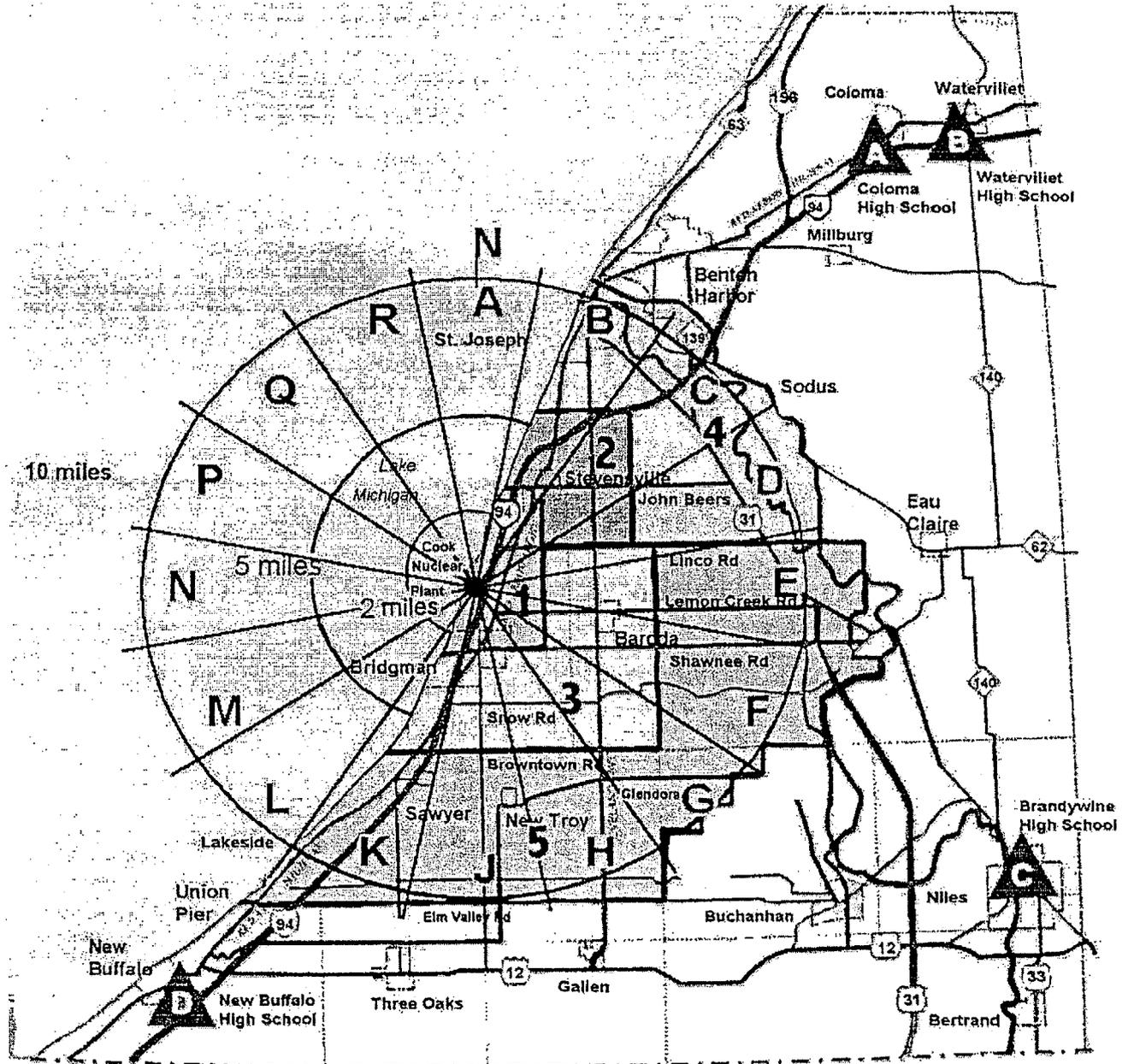
Determine affected areas as follows:

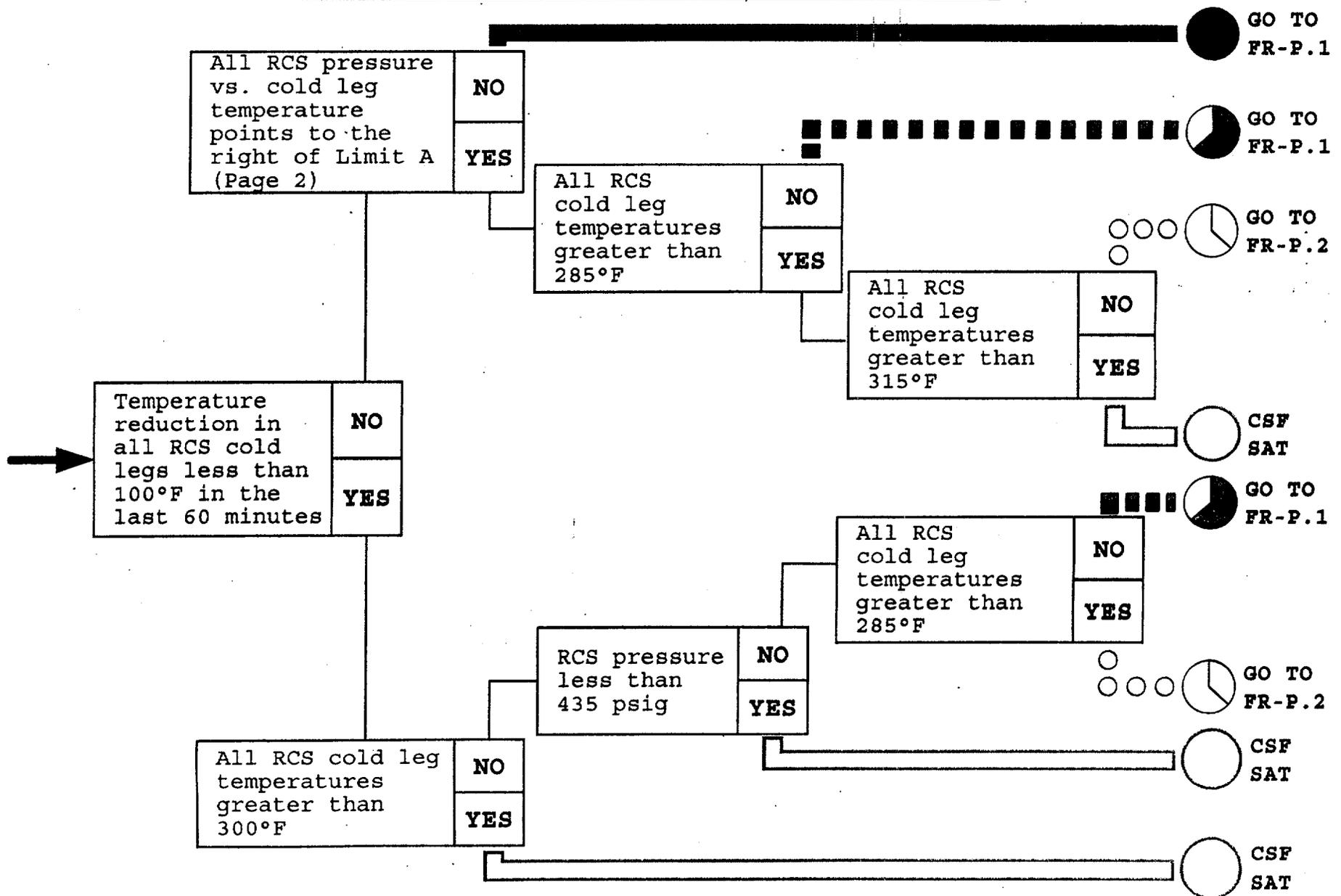
- Direction wind is blowing from (in Degrees) _____
- Using diagram above, locate sector opposite direction identified in A _____
- Downwind sectors (sectors identified in B plus 2 adjacent sectors) _____
- Convert downwind sectors to areas using the Sectors to Areas table.
- PAR is: Evacuate areas _____ (from D)



Sectors	Areas
A, B & C to 5 miles	1 and 2
B, C & D to 5 miles	1, 2 and 3
C, D & E to 5 miles	1, 2 and 3
D, E, & F to 5 miles	1, 2 and 3
E, F & G to 5 miles	1, 2 and 3
F, G & H to 5 miles	1 and 3
G, H & J to 5 miles	1 and 3
H, J & K to 5 miles	1 and 3
J, K & L to 5 miles	1 and 3
K, L & M to 5 miles	1 and 3
L, M & N to 5 miles	1
M, N & P to 5 miles	1
N, P & Q to 5 miles	1
P, Q & R to 5 miles	1
Q, R & A to 5 miles	1
R, A & B to 5 miles	1 and 2

Reference	PMP-2080-EPP-100	Rev. 0	Page 10 of 20
Emergency Response			
Attachment 1	PAR Flowchart and Map		Pages: 9 - 10





Number:

02-OHP 4023

F-0.4

Title:

INTEGRITY

Revision Number:

4

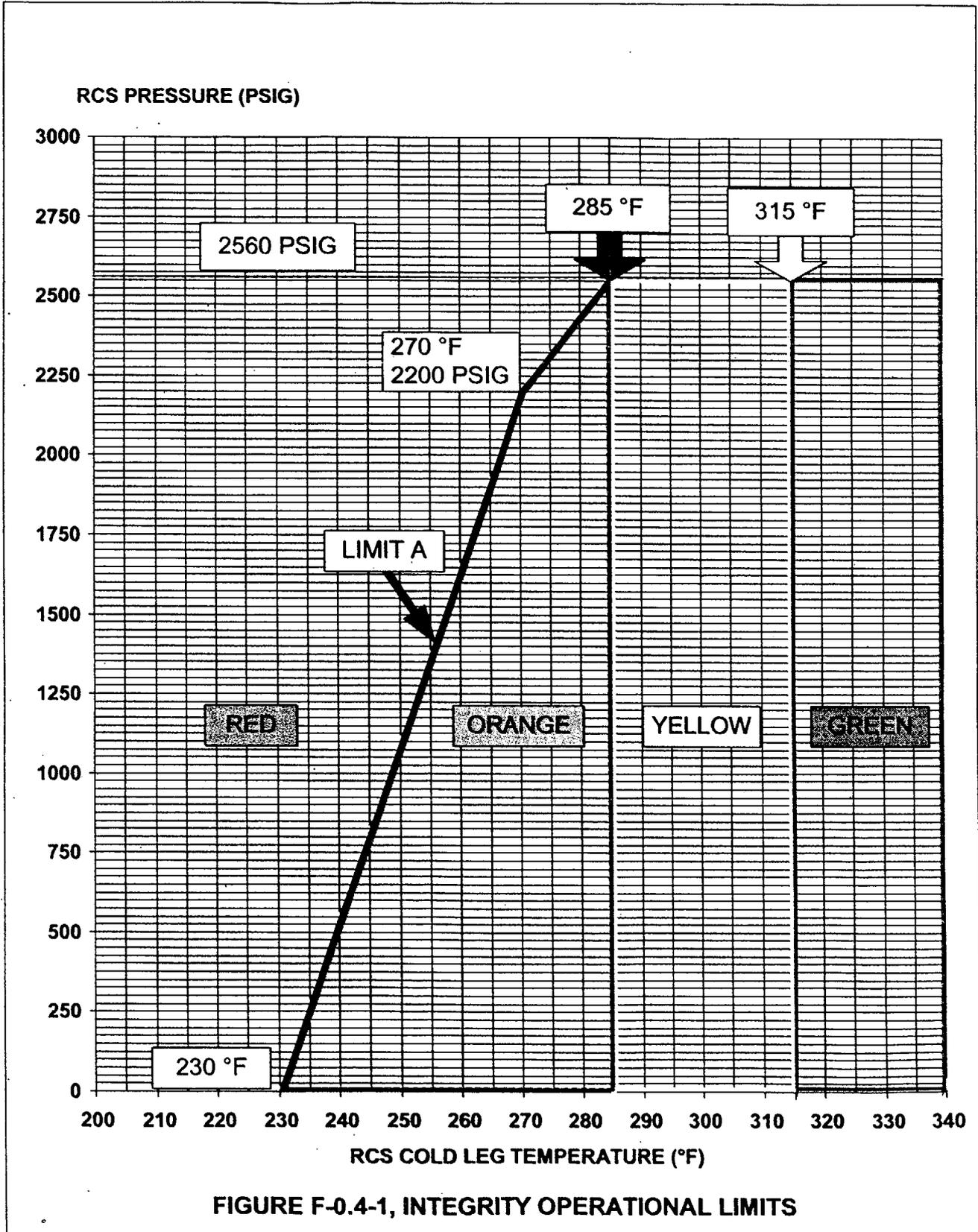


FIGURE F-0.4-1, INTEGRITY OPERATIONAL LIMITS

Information	PMP-6010.OSD.001	Rev. 16	Page 46 of 84
OFF-SITE DOSE CALCULATION MANUAL			
Attachment 3.2	Radioactive Liquid Effluent Monitoring Instruments	Pages: 46 - 47	

Instrument	Minimum Channels Operable ^a	Applicability	Action
1. Gross Radioactivity Monitors Providing Automatic Release Termination			
a. Liquid Radwaste Effluent Line (RRS-1001)	(1)#	At times of release	1
b. Steam Generator Blowdown Line (R-19, DRS 3/4100 +)	(1)#	At times of release**	2
c. Steam Generator Blowdown Treatment Effluent (R-24, DRS 3/4200 +)	(1)#	At times of release	2
2. Gross Radioactivity Monitors Not Providing Automatic Release Termination			
a. Service Water System Effluent Line(R-20, R-28, WRA 3/4500 and WRA 3/4600 +)	(1) per train #	At all times	3
3. Continuous Composite Sampler Flow Monitor			
a. Turbine Building Sump Effluent Line	(1)	At all times	3
4. Flow Rate Measurement Devices			
a. Liquid Radwaste Line (RFI-285)	(1)	At times of release	4
b. Discharge Pipes*	(1)	At all times	NA
c. Steam Generator Blowdown Treatment Effluent (DFI-352)	(1)	At times of release	4

- * Pump curves and valve settings may be utilized to estimate flow; in such cases, Action Statement 4 is not applicable. This is primarily in reference to start up flash tank flow.
- # OPERABILITY of RRS-1001 includes OPERABILITY of sample flow switch RFS-1010, which is an attendant instrument as defined by Technical Specification 1.6. This item is also applicable for all Eberline liquid monitors (and their respective flow switches) listed here.
- ** Since these monitors can be used for either batch or continuous release the appropriate action statement of 1 or 2 should apply (that is, Action 1 if a steam generator drain is being performed in lieu of Action 2).
- + Westinghouse (R) radiation monitors are being replaced by Eberline (DRS & WRA) monitors. Either monitor can fulfill the operability requirement.
- a IF an RMS monitor is inoperable solely as the result of the loss of its control room alarm annunciation, THEN one of the following actions is acceptable to satisfy the ODCM action statement compensatory surveillance requirement:
1. Collect grab samples and conduct laboratory analyses per the specific monitor's action statement,
 - OR-
 2. Collect local monitor readings at a frequency equal to or greater than (more frequently than) the action frequency.

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OFF-SITE DOSE CALCULATION MANUAL			
Attachment 3.2	Radioactive Liquid Effluent Monitoring Instruments	Pages: 46 - 47	

IF the RMS monitor is inoperable for reasons other than the loss of control room annunciation, THEN the only acceptable action is taking grab samples and conducting laboratory analyses as the reading is equivalent to a grab sample when the monitor is functional.

TABLE NOTATION

- Action 1 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases may continue, provided that prior to initiating a release:
1. At least two independent samples are analyzed in accordance with Step 3.2.3a and;
 2. At least two technically qualified members of the Facility Staff independently verify the discharge valving. Otherwise, suspend release of radioactive effluents via this pathway.
- Action 2 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided grab samples are analyzed for gross radioactivity (beta or gamma) at a limit of detection of at least 10⁻⁷ µCi/gram:
1. At least once per shift when the specific activity of the secondary coolant is > 0.01 µCi/gram DOSE EQUIVALENT I-131.
 2. At least once per 24 hours when the specific activity of the secondary coolant is ≤ 0.01 µCi/gram DOSE EQUIVALENT I-131.
- Action 3 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that at least once per shift, grab samples are collected and analyzed for gross radioactivity (beta or gamma) at a lower limit of detection of at least 10⁻⁷ µCi/ml. Since the ESW monitors (R-20 and R-28) are only used for post LOCA leak detection and have no auto trip function associated with them, grab samples are only needed if the Containment Spray Heat Exchanger is in service. ESW monitors WRA-3/4500 and WRA-3/4600 are located in the system effluent and require compensatory sampling whenever the monitor is inoperable and the applicable train is in service.
- Action 4 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours during actual releases.

Compensatory actions are governed by PMP-4030.EIS.001, Event-Initiated Surveillance Testing

Information	PMP-6010.OSD.001	Rev. 16	Page 48 of 84
OFF-SITE DOSE CALCULATION MANUAL			
Attachment 3.3	Radioactive Liquid Effluent Monitoring Instrumentation Surveillance Requirements		Pages: 48 - 49

Instrument	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST
1. Gross Radioactivity Monitors Providing Automatic Release Termination				
a. Liquid Radwaste Effluent Line (RRS-1001)	D*	P	R(3)	Q(5)
b. Steam Generator Blowdown Effluent Line	D*	M	R(3)	Q(1)
c. Steam Generator Blowdown Treatment Effluent Line	D*	M	R(3)	Q(1)
2. Gross Radioactivity Monitors Not Providing Automatic Release Termination				
a. Service Water System Effluent Line	D	M	R(3)	Q(2)
3. Continuous Composite Samplers				
a. Turbine Building Sump Effluent Line	D*	N/A	N/A	N/A
4. Flow Rate Measurement Devices				
a. Liquid Radwaste Effluent	D(4)*	N/A	R	Q
b. Steam Generator Blowdown Treatment Line	D(4)*	N/A	N/A	N/A

* During releases via this pathway

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OFF-SITE DOSE CALCULATION MANUAL			
Attachment 3.3	Radioactive Liquid Effluent Monitoring Instrumentation Surveillance Requirements		Pages: 48 - 49

TABLE NOTATION

1. Demonstrate with the CHANNEL FUNCTIONAL TEST that automatic isolation of this pathway and control room alarm annunciation occurs if any of the following conditions exists:
 1. Instrument indicates measured levels above the alarm/trip setpoint.
 2. Circuit failure.*
 3. Instrument indicates a downscale failure.*
 4. Instrument control not set in operating mode.*
 5. Loss of sample flow. #

2. Demonstrate with the CHANNEL FUNCTIONAL TEST that control room alarm annunciation occurs if any of the following conditions exists:
 1. Instrument indicates measured levels above the alarm setpoint.
 2. Circuit failure.
 3. Instrument indicates a downscale failure.
 4. Instrument controls not set in operating mode.
 5. Loss of sample flow. #

3. Perform the initial CHANNEL CALIBRATION using one or more sources with traceability back to the National Institute of Standards and Technology (NIST). These sources permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration may be used.

4. Verify indication of flow during periods of release with the CHANNEL CHECK. Perform the CHANNEL CHECK at least once per 24 hours on days on which continuous, periodic or batch releases are made.

5. Demonstrate with the CHANNEL FUNCTIONAL TEST that automatic isolation of this pathway and control room alarm annunciation occurs if any of the following conditions exists:
 1. Instrument indicates measured levels above the alarm/trip setpoint.
 2. Circuit failure.**
 3. Instrument indicates a downscale failure.**
 4. Instrument control not set in operating mode.*
 5. Loss of sample flow.

* Instrument indicates, but does not provide for automatic isolation

** Instrument indicates, but does not necessarily cause automatic isolation. No credit is taken for the automatic isolation on such occurrences.

Applicable only to Eberline sample flow instrumentation

Operations currently performs the routine channel checks and source checks. Maintenance and Radiation Protection perform channel calibrations and channel functional tests. Chemistry performs the channel check on the continuous composite sampler. These responsibilities are subject to change without revision to this document.

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTSNOTATION

Note 1: Overtemperature $\Delta T \leq \Delta T_0 \left[K_1 - K_2 \left[\frac{1 + \tau_1 s}{1 + \tau_2 s} \right] (T - T') + K_3 (P - P') - f_1 (\Delta I) \right]$

where:	ΔT_0	=	Indicated ΔT at RATED THERMAL POWER
	T	=	Average temperature, °F
	T'	=	Indicated T_{avg} at RATED THERMAL POWER ($\leq 576.3^\circ\text{F}$)
	P	=	Pressurizer pressure, psig
	P'	=	Indicated RCS nominal operating pressure (2235 psig or 2085 psig)
	$\frac{1 + \tau_1 s}{1 + \tau_2 s}$	=	The function generated by the lead-lag controller for T_{avg} dynamic compensation
	τ_1, τ_2	=	Time constants utilized in the lead-lag controller for T_{avg} $\tau_1 = 22$ secs. $\tau_2 = 4$ secs.
	S	=	Laplace transform operator

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTSNOTATIONS (Continued)

Operation with 4 Loops

$$\begin{aligned}K_1 &= 1.17 \\K_2 &= 0.0230 \\K_3 &= 0.00110\end{aligned}$$

and $f_1(\Delta I)$ is a function of the indicated difference between top and bottom detectors of the power-range nuclear ion chambers; with gains to be selected based on measured instrument response during plant startup tests such that:

- (i) For $q_t - q_b$ between -37 percent and +3 percent, $f_1(\Delta I) = 0$ (where q_t and q_b are percent RATED THERMAL POWER in the top and bottom halves of the core respectively, and $q_t + q_b$ is total THERMAL POWER in percent of RATED THERMAL POWER).
- (ii) For each percent that the magnitude of $(q_t - q_b)$ exceeds -37 percent, the ΔT trip setpoint shall be automatically reduced by 0.33 percent of its value at RATED THERMAL POWER.
- (iii) For each percent that the magnitude of $(q_t - q_b)$ exceeds +3 percent, the ΔT trip setpoint shall be automatically reduced by 2.34 percent of its value at RATED THERMAL POWER.

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTSNOTATION (Continued)

Note 2: Overpower $\Delta T \leq \Delta T_0$ $\left[K_4 - K_5 \left[\frac{\tau_3 S}{1 + \tau_3 S} \right] T - K_6 (T - T'') - f_2 (\Delta I) \right]$

where:	ΔT_0	=	Indicated ΔT at RATED THERMAL POWER
	T	=	Average temperature, °F
	T''	=	Indicated T_{avg} at RATED THERMAL POWER ($\leq 563.0^\circ\text{F}$)
	K_4	=	1.083
	K_5	=	0.0177/°F for increasing average temperature and 0 for decreasing average temperature
	K_6	=	0.0015 for $T > T''$; $K_6=0$ for $T \leq T''$
	$\frac{\tau_3 S}{1 + \tau_3 S}$	=	The function generated by the rate lag controller for T_{avg} dynamic compensation
	τ_3	=	Time constant utilized in the rate lag controller for T_{avg} $\tau_3 = 10$ secs.
	S	=	Laplace transform operator
	$f_2 (\Delta I)$	=	0

Note 3: The channel's maximum trip point shall not exceed its computed trip point by more than 3.4 percent ΔT span.

Note 4: The channel's maximum trip point shall not exceed its computed trip point by more than 2.5 percent ΔT span.



SURVEILLANCE REQUIREMENTS (Continued)

shall be constituted of one basket each from Radial Rows 1, 2, 4, 6, 8 and 9 (or from the same row of an adjacent bay if a basket from a designated row cannot be obtained for weighing) within each bay. If any basket is found to contain less than 1144 pounds of ice (end-of-cycle), a representative sample of 20 additional baskets from the same bay shall be weighed. The minimum average weight of ice from the 20 additional baskets and the discrepant basket shall not be less than 1144 pounds/basket (end-of-cycle) at a 95% level of confidence.

The ice condenser shall also be subdivided into 3 groups of baskets, as follows: Group 1 - bays 1 through 8, Group 2 - bays 9 through 16, and Group 3 - bays 17 through 24. The minimum average ice weight of the sample baskets from Radial Rows 1, 2, 4, 6, 8 and 9 in each group shall not be less than 1144 pounds/basket (end-of-cycle) at a 95% level of confidence.

The minimum total ice condenser ice weight at a 95% level of confidence shall be calculated using all ice basket weights determined during this weighing program and shall not be less than 2,222,000 pounds (end-of-cycle).

3. Verifying, by a visual inspection of at least two flow passages per ice condenser bay, that the accumulation of frost or ice on the top deck floor grating, on the intermediate deck and on flow passages between ice baskets and past lattice frames is restricted to a nominal thickness of 3/8 inches. If one flow passage per bay is found to have an accumulation of frost or ice greater than this thickness, a representative sample of 20 additional flow passages from the same bay shall be visually inspected. If these additional flow passages are found acceptable, the surveillance program may proceed considering the single deficiency as unique and acceptable. More than one restricted flow passage per bay is evidence of abnormal degradation of the ice condenser.
 - c. At least once per 18 months by verifying, by a visual inspection, each ice condenser bay, that the accumulation of frost or ice on the lower inlet plenum support structures and turning vanes is restricted to a nominal thickness of 3/8 inches. An accumulation of frost and ice greater than this thickness is evidence of abnormal degradation of the ice condenser.
 - d. At least once per 40 months by lifting and visually inspecting the accessible portions of at least two ice baskets from each 1/3 of the ice condenser and verifying that the ice baskets are free of detrimental structural wear, cracks, corrosion or other damage. The ice baskets shall be raised at least 12 feet for this inspection.

3/4 **LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS**
3/4.6 **CONTAINMENT SYSTEMS**

ICE BED TEMPERATURE MONITORING SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.5.2 The ice bed temperature monitoring system shall be OPERABLE with at least 2 OPERABLE RTD channels in the ice bed at elevations 652' 2-1/4", 672' 5-1/4" and 696' 2-1/4" for each one third of the ice condenser.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With the ice bed temperature monitoring system inoperable, POWER OPERATION may continue for up to 30 days provided:
 1. The ice compartment lower inlet doors, intermediate deck doors, and top deck doors are closed;
 2. The last recorded mean ice bed temperature was $\leq 20^{\circ}\text{F}$ and steady; and
 3. The ice condenser cooling system is OPERABLE with at least:
 - a) 21 OPERABLE air handling units,
 - b) 2 OPERABLE glycol circulating pumps, and
 - c) 3 OPERABLE refrigerant units;

otherwise, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With the ice bed temperature monitoring system inoperable and with the ice condenser cooling system not satisfying the minimum components OPERABILITY requirements of a.3 above, POWER OPERATION may continue for up to 6 days provided the ice compartment lower inlet doors, intermediate deck doors, and top deck doors are closed and the last recorded mean ice bed temperature was $\leq 15^{\circ}\text{F}$ and steady; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.6.5.2 The ice bed temperature monitoring system shall be determined OPERABLE by performance of a CHANNEL CHECK at least once per 12 hours.

CONTAINMENT SYSTEMS

ICE CONDENSER DOORS

LIMITING CONDITION FOR OPERATION

3.6.5.3 The ice condenser inlet doors, intermediate deck doors, and top deck doors shall be closed and OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more ice condenser doors open or otherwise inoperable, POWER OPERATION may continue for up to 14 days provided the ice bed temperature is monitored at least once per 4 hours and the maximum ice bed temperature is maintained less than or equal to 27°F; otherwise, restore the doors to their closed positions or OPERABLE status (as applicable) within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.3.1 Inlet Doors - Ice condenser inlet doors shall be:

- a. Continuously monitored and determined closed by the inlet door position monitoring system, and
- b. Demonstrated OPERABLE during shutdown at least once per 18 months by:
 1. Verifying that the torque required to initially open each door is less than or equal to 675 inch pounds.
 2. Verifying that opening of each door is not impaired by ice, frost or debris.
 3. Testing each one of the doors and verifying that the torque required to open each door is less than 195 inch-pounds when the door is 40 degrees open. This torque is defined as the "door opening torque" and is equal to the nominal door torque plus a frictional torque component.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4. Testing each of the doors and verifying that the torque required to keep each door from closing is greater than 78 inch-pounds when the door is 40 degrees open. This torque is defined as the "door closing torque" and is equal to the nominal door torque minus a frictional torque component.
5. Calculation of the frictional torque of each door tested in accordance with 3 and 4, above. The calculated frictional torque shall be less than or equal to 40 inch-pounds.

4.6.5.3.2 Intermediate Deck Doors - Each ice condenser intermediate deck door shall be:

- a. Verified closed and that opening of each door is not impaired by ice, frost or debris by a visual inspection at least once per 7 days, and
- b. Demonstrated OPERABLE at least once per 18 months by visually verifying no structural deterioration, by verifying free movement of the vent assemblies, and by ascertaining free movement when lifted with the applicable force shown below.

<u>Door</u>	<u>Lifting Force</u>
1. Adjacent to Crane Wall	Less than or equal to 37.4 lbs.
2. Paired with Door Adjacent to Crane Wall	Less than or equal to 33.8 lbs.
3. Adjacent to Containment Wall	Less than or equal to 31.8 lbs.
4. Paired with Door Adjacent to Containment Wall	Less than or equal to 31.0 lbs.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.6.5.3.3 Top Deck Doors - Each ice condenser top deck door shall be determined closed and OPERABLE at least once per 92 days by visually verifying:

- a. That the doors are in place, and
- b. That no condensation, frost, or ice has formed on the doors or blankets which would restrict their lifting and opening if required.

CONTAINMENT SYSTEMS

INLET DOOR POSITION MONITORING SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.5.4 The inlet door position monitoring system shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the inlet door position monitoring system inoperable, POWER OPERATION may continue for up to 14 days, provided the ice bed temperature monitoring system is OPERABLE and the maximum ice bed temperature is less than or equal to 27°F when monitored at least once per 4 hours; otherwise, restore the inlet door position monitoring system to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.4 The inlet door position monitoring system shall be determined OPERABLE by:

- a. Performing a CHANNEL CHECK at least once per 12 hours,
- b. Performing a CHANNEL FUNCTIONAL TEST at least once per 18 months, and
- c. Verifying that the monitoring system correctly indicates the status of each inlet door as the door is opened and reclosed during its testing per Specification 4.6.5.3.1.

CONTAINMENT SYSTEMS

DIVIDER BARRIER PERSONNEL ACCESS DOORS AND EQUIPMENT HATCHES

LIMITING CONDITION FOR OPERATION

3.6.5.5 The personnel access doors and equipment hatches between the containment's upper and lower compartments shall be OPERABLE and closed.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With a personnel access door or equipment hatch inoperable or open except for personnel transit entry and T_{avg} greater than 200°F , restore the door or hatch to OPERABLE status or to its closed position (as applicable) within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.5.1 The personnel access doors and equipment hatches between the containment's upper and lower compartments shall be determined closed by a visual inspection prior to increasing the Reactor Coolant System T_{avg} above 200°F and after each personnel transit entry when the Reactor Coolant System T_{avg} is above 200°F .

4.6.5.5.2 The personnel access doors and equipment hatches between the containment's upper and lower compartments shall be determined OPERABLE by visually inspecting the seals and sealing surfaces of these penetrations and verifying no detrimental misalignments, cracks or defects in the sealing surfaces, or apparent deterioration of the seal material:

- a. Prior to final closure of the penetration each time it has been opened, and
- b. At least once per 10 years for penetrations containing seals fabricated from resilient materials.

3/4 **LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS**
3/4.6 **CONTAINMENT SYSTEMS**

CONTAINMENT AIR RECIRCULATION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.6.5.6 Two independent containment air recirculation systems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one containment air recirculation system inoperable, restore the inoperable system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

- 4.6.5.6 Each containment air recirculation system shall be demonstrated OPERABLE at least once per 3 months on a STAGGERED TEST BASIS by:
- a. Verifying that the return air fan starts on an auto-start signal after a 120 ± 12 seconds delay, the motor operated valve in the suction line to the containment's lower compartment opens when the return air fan starts, and the return air fan operates for at least 15 minutes (applicable in MODES 1, 2, and 3 only),
 - b. Verifying that with the return air fan discharge backdraft damper locked closed and the fan motor energized, the static pressure between the fan discharge and the backdraft damper is ≥ 4.0 inches, water gauge,
 - c. Verifying that with the fan off, the return air fan damper opens when a force of ≤ 11 lbs is applied to the counterweight, and
 - d. Verifying that the return air fan can be manually started from the control room, and the motor operated valve in the suction line to the containment's lower compartment opens when the return air fan starts.

CONTAINMENT SYSTEMS

FLOOR DRAINS

LIMITING CONDITION FOR OPERATION

3.6.5.7 The ice condenser floor drains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the ice condenser floor drain inoperable, restore the floor drain to OPERABLE status prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.5.7 Each ice condenser floor drain shall be demonstrated OPERABLE at least once per 18 months during shutdown by:

- a. Verifying that valve gate opening is not impaired by ice, frost or debris,
- b. Verifying that the valve seat is not damaged,
- c. Verifying that the valve gate opens when a force of ≤ 100 lbs is applied, and
- d. Verifying that the 12 inch drain line from the ice condenser floor to the containment lower compartment is unrestricted.