

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

1

ID: Q10379

Points: 1.00

Given the following conditions:

- RCP 1A trips.
- The Reactor fails to automatically trip.
- Reactivity Control contingency actions taken from the Control Room are NOT successful in inserting the CEAs.
- Boration has been commenced.
- Plant is operating at 95%.
- SPTAs have been completed with no other complications.

Based on these conditions, the Operating Crew should...

- A. De-energize NAN-S01 and NAN-S02 then enter LOFC/LOOP EOP
- B. Enter the Reactor Trip EOP and perform the Reactivity contingency actions
- C. Enter the Functional Recovery EOP then cooldown and depressurize the RCS to commence HPSI injection flow
- D. Enter the Functional Recovery EOP then direct an Area Operator to open the Reactor Trip Switchgear Breakers

Answer: D

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Question 1 Details

Question Type:	Multiple Choice
Topic:	Q10379 Reactivity Control Contingency Actions
System ID:	10379
User ID:	Q10379
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	2.00
Time to Complete:	2
Point Value:	1.00
Cross Reference:	
User Text:	42007EA2.04
User Number 1:	4.30
User Number 2:	4.50
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 40EP-9EO09 (FRP), 40EP-9EO01 (SPTAs)

K&A: Ability to determine or interpret the following as they apply to a reactor trip: If reactor should have tripped but has not done so, manually trip the reactor and carry out actions in ATWS EOP

Modified from Q9639

Justification:
SPTA s would show the reactivity safety function not met and direct to FRP. That makes B incorrect. FRP takes action to open supply breakers. This makes D correct. Answer C is not called for by the FRP. Answer A is not directed by any procedure.

EXAMINATION ANSWER KEY

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2

ID: Q6777

Points: 1.00

The following plant conditions exist:

- Pressurizer pressure is 1790 psia and decreasing.
- RCP 1A has a brighter than normal green light.
- Containment pressure is 0.8 psig and increasing.
- SG #1 pressure is 1040 psia and stable.
- SG #2 pressure is 1100 psia and stable.
- SG #1 level is 50% WR.
- SG #2 level is 70% WR.
- T-cold being maintained at 564°F.
- PZR level is 42% and increasing.
- Core delta T is 4°F
- Containment temperature is 112°F and increasing.
- Containment humidity is 42% and increasing.
- Containment radiation alarms present on the Radiation Monitoring System.

Based on these conditions the CRS should enter ...

- A. 40EP-9EO02, Reactor Trip and stop the 2A RCP.
- B. 40EP-9EO05, Excessive Steam Demand and initiate MSIS.
- C. 40EP-9EO04, SGTR and maintain SG #1 level above 45% NR.
- D. 40EP-9EO03, Loss of Coolant Accident, and verify adequate Safety Injection flow.

Answer: D

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Question 2 Details

Question Type:	Multiple Choice
Topic:	Q6777 EOP LOCA Entry Condition
System ID:	7642
User ID:	Q6777
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	3.00
Time to Complete:	5
Point Value:	1.00
Cross Reference:	
User Text:	2.4.1
User Number 1:	4.30
User Number 2:	4.60
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 40EP-9EO03, Loss of Coolant Accident; 40EP-9EO01, Standard Post Trip Actions

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

Justification:

This event should be diagnosed as a Pressurizer steam space LOCA based on conditions in stem. A is incorrect. The Rx Trip EOP does not provide enough guidance to mitigate a small break LOCA.

B is incorrect. An ESD has not occurred. A lower SG level and Press in #1 SG are due to unbalance flow and not an ESD in the SG. Level & Press are steady. They would have to be decreasing for this to be possible.

C is incorrect. A SGTR has not occurred. Diverging SG levels are due to unbalanced flow to the SG's due a tripped RCP.

D is correct. The LOCA procedure would be directed via the SPTAs.

EXAMINATION ANSWER KEY

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3

ID: Q10324

Points: 1.00

Standard Appendix 2 requires that at least 1 Steam Generator be available for RCS heat removal to meet HPSI throttle Criteria. From the list below identify which combination of conditions would make a SG available for Heat Removal.

- A. SG pressure is steady at 1250 psia and SG level is 25% NR INCREASING being fed by the "A" Main Feed Pump
- B. SG pressure 1150 psia controlled by ADVs and SG level is 55% WR INCREASING being fed by AFB-P01
- C. SG pressure 1100 psia controlled by SBCVs and SG level is 40% NR DECREASING being fed by AFB-P01
- D. SG pressure 400 psia controlled by ADVs and SG level is 10% NR INCREASING being fed by the only available feed source Condensate pumps

Answer: B

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Question 3 Details

Question Type:	Multiple Choice
Topic:	Q10324 Basis for SG available to throttle HPSI flow.
System ID:	10324
User ID:	Q10324
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	3.00
Time to Complete:	4
Point Value:	1.00
Cross Reference:	
User Text:	41011EA211
User Number 1:	3.90
User Number 2:	4.30
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 40DP-9AP08 (LOCA Tech Guideline), Standard Appendix 2

K&A: Ability to determine or interpret the following as they apply to a Large Break LOCA: Conditions for throttling or stopping HSPI

CRITERIA -- level is within or being restored to the normal control band. The SG is capable of being supplied with MFW or AFW and the SG is capable of being steamed by SBCS or ADVs

Justification:

A is incorrect. SG pressure and level are out of the band. High pressure indicates safety valve operation.

B is correct. meets all criteria

C is incorrect. Level is decreasing, not restoring

D is incorrect. Condensate water does not meet criteria.

EXAMINATION ANSWER KEY

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4

ID: Q6653

Points: 1.00

Given the following conditions:

- Unit-1 is in Mode 5
- Tcold is 140°F
- Shutdown cooling is in service using LPSI "A"
- SIA-UV-651, SIC-UV-653, SIB-UV-652 and SID-UV-654 are open
- RCS pressure is 185 psia
- SDC flow was being maintained at 3780 gpm
- SDC flow is now oscillating

The following alarms annunciate:

- CNTMT SUMP TRBL
- CNTMT SUMPS EXCESS LEAKAGE
- SDC TRAIN A/B FLOW LO

Based on these conditions, the CRS should utilize the _____ procedure and _____.

- A. Functional Recovery. Start CS pump "A"
- B. Lower Mode Functional Recovery. Stop LPSI pump "A"
- C. Shutdown Cooling Initiation. Place SDC train "B" in service
- D. Panel B02 Alarm response. Raise SDC flow to greater than 3615 gpm

Answer: B

EXAMINATION ANSWER KEY

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Question 4 Details

Question Type: Multiple Choice
Topic: Q6653 EOP LMEOP RCS leakage with increasing sump levels
System ID: 6056
User ID: Q6653
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 3.00
Time to Complete: 4
Point Value: 1.00
Cross Reference:
User Text: 42025AA203
User Number 1: 3.60
User Number 2: 3.80
Comment: **Proposed reference to be provided to applicant during examination: NONE**

Technical Reference: 40EP-9EO11, Lower Mode Functional Recovery Procedure & 40AL-9RK2B (window 2B06A)

K&A: Ability to determine and interpret the following as they apply to the Loss of Residual Heat Removal System: Increasing reactor building sump level

Justification:

A & C are incorrect with LTOPs open the LMFRP is the correct procedure to enter

B is correct. LMFRP directs lowering flow to 3780 gpm and if oscillations continue stop the SDC pump in service

D is incorrect. Alarm response directs not starting other train until cause of cavitation is determined prevent both trains from becoming air bound

EXAMINATION ANSWER KEY

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5

ID: Q10275

Points: 1.00

The following conditions are reported during the performance of SPTAs

- 525 kV switchyard voltmeters East and West indicate 000 volts
- Both DGs have powered their respective class buses
- CDN-PI-47, indicates Main Condenser pressure is 12 inches Hga and continuing to rise
- AFAS 1 has initiated
- SG levels are being restored by AFB-P01
- RCS Tcold is controlling at 562°F
- Spray Pond pump "B" has tripped due to an 86 lockout
- RO attempted to start AFN-P01, but all attempts to open CTA-HV-1 have failed
- AFA-P01 is running with a discharge pressure of 900 psia

Based on current conditions and trends the CRS should enter

- A. Reactor Trip (40EP-9EO02) and feed using AFB-P01
- B. Functional Recovery (40EP-9EO09) and feed using AFB-P01
- C. Functional Recovery, (40EP-9EO09) and feed using condensate pumps
- D. Loss of Offsite Power/Loss of Forced Circulation (40EP-9EO07) and feed using AFA-P01

Answer: B

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Question 5 Details

Question Type:	Multiple Choice
Topic:	Q10275 - analyze whether or not entry into the LOAF EOP is appropriate
System ID:	10275
User ID:	Q10275
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	3.00
Time to Complete:	4
Point Value:	1.00
Cross Reference:	
User Text:	2.4.47
User Number 1:	3.40
User Number 2:	3.70
Comment:	Proposed reference to be provided to applicant during examination: Steam Tables

Technical Reference: EOP Operations Expectations & 40EP-9EO01, Standard Post Trip Actions

K&A: Ability to diagnose and recognize trends in an accurate and timely manner utilizing the appropriate control room reference material.

Justification:

A is incorrect, the examinee must realize that the trip of ESP pump "B" requires that DG "B" be tripped and Rx trip is no longer available

B is correct. CRS should realize that only available feed source is AF pump "B" and it must be powered by the "A" DG which requires entry into the FRP

C is incorrect. Loss of offsite power precludes the use of Condensate pumps

D are incorrect. AFA-P01 discharge pressure is too low for a T-cold of 562 = 1150 psia

EXAMINATION ANSWER KEY

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6

ID: Q67246

Points: 1.00

Given the following Unit-1 plant conditions:

- Reactor tripped
- SG #1 pressure 200 psia and slowly dropping
- SG #2 pressure 980 psia and stable
- Loop 1 T-cold 515°F and slowly increasing
- Loop 1 T-hot 527°F and stable
- Loop 2 T-cold 530°F and stable
- Loop 2 T-hot 529°F and slowly increasing

Which one of the following describes the EOP mitigating actions to be or should have been directed by the CRS.

- A. Immediately depressurize SG #2 to 775 psia.
- B. Immediately depressurize SG #2 to 880 psia.
- C. Depressurize SG #2 when SG #1 reaches dryout conditions as indicated by 0 psia
- D. SG #2 should have been depressurized within 50 psia of SG #1 pressure while it was blowing down.

Answer: A

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Question 6 Details

Question Type:	Multiple Choice
Topic:	Q67246 RCS temperature is stabilized during an ESD
System ID:	9443
User ID:	Q67246
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	2.00
Time to Complete:	3
Point Value:	1.00
Cross Reference:	
User Text:	44E05EA22
User Number 1:	3.40
User Number 2:	4.20
Comment:	Proposed reference to be provided to applicant during examination: Steam Tables
	Technical Reference: EOP Operations Expectations & 40EP-9EO05, Excess Steam Demand
	K&A: Ability to determine and interpret the following as they apply to the (Excess Steam Demand) Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.
	Justification: A is correct. Correct target pressure (coldest T-cold) and appropriate timing based on SG #1 dryout conditions as indicated by RCS temp increase
	B is incorrect. Target pressure given is for T-cold of non faulted SG
	C is incorrect. Timing is wrong, dryout conditions are indicated by RCS temp increase not SG pressure
	D is incorrect. Following faulted SG pressure down invalidates safety analysis.

EXAMINATION ANSWER KEY

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7

ID: Q10303

Points: 1.00

Given the following conditions:

- You are the Unit 1 CRS during a weekend nightshift
- The Effluent Tech has requested a procedure change to 74RM-9EF41, Radiation Monitoring System Alarm Response
- The change effects the Radiological Monitoring Group Response to an Alert/High alarm on RU-2/3

As a minimum this change requires a Temporary Approved Procedure Action (TAPA) be generated with

- A. approval by two SROs with valid licenses on the affected Unit
- B. approval by two members of the plant supervisory staff one of whom holds a valid SRO license on the affected Unit
- C. a completed 50.59 review and approval by two members of the plant supervisory staff each within the affected discipline
- D. a completed 50.59 review and approval by two members of the plant supervisory staff one of whom holds a valid SRO license on the affected Unit

Answer: D

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Question 7 Details

Question Type:	Multiple Choice
Topic:	Q10303 Describe the process for generating a TAPA.
System ID:	10303
User ID:	Q10303
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	3.00
Time to Complete:	3
Point Value:	1.00
Cross Reference:	01DP-0AP01
User Text:	2.2.6
User Number 1:	2.30
User Number 2:	3.30
Comment:	Proposed reference to be provided to applicant during examination: None

Technical Reference: 01DP-0AP01, Procedure Process

Modified from Q10018

K&A: Knowledge of the process for making changes in procedures as described in the safety analysis report.

Justification:

A and B are incorrect. 2 SROs or SRO + Supervisor was the old standard

C is incorrect. requires 50.59 review (added this requirement in early 2006), needs at least one SRO as supervisory staff.

D is correct. meets requirements of 01DP-0AP01 section 5.10

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8

ID: Q10293

Points: 1.00

Given the following conditions:

- The Unit-2 Control Room is being evacuated due to an accidental toxic gas release
- Manual Reactor trip from Control Room has been initiated
- Power is lowering
- 3 full strength CEAs failed to insert
- CHA-LI-200 indicates 90% RWT level
- All other actions are progressing as expected

How does the AOP in use direct the CRS to ensure adequate boration flow?

- A. The RCS will be depressurized to allow HPSI injection flow, HPSI flow will be monitored at the Remote Shutdown Panel
- B. Charging pump suction will be aligned to the RWT from NHN-M72, charging flow will be monitored at the Remote Shutdown Panel
- C. Reactor Operator will complete Reactivity contingency actions per the SPTAs, boration flow will be verified prior to Control Room evacuation
- D. Charging pump suction will be aligned to the Spent Fuel Pool, boration flow will be verified by the local flow instrument located outside the charging pump rooms

Answer: B

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Question 8 Details

Question Type:	Multiple Choice
Topic:	Q10293 stuck CEAs during CR evacuation (non fire)
System ID:	10293
User ID:	Q10293
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	2.00
Time to Complete:	3
Point Value:	1.00
Cross Reference:	40AO-9ZZ18
User Text:	42068AA202
User Number 1:	3.70
User Number 2:	4.20
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 40AO-9ZZ18, Shutdown
Outside Control Room

K&A: Ability to determine and interpret the following as they apply to the Control Room Evacuation: Local boric acid flow

Justification:
A is incorrect. The procedure has no contingency for HPSI flow. This action is available in Emergency Boration procedure so examine may choose this option

B is correct per step 8 (appendix A) of 9ZZ18

C is incorrect. Operators are directed to leave CR at step 6 (prior to taking these actions) step 8 addresses Rx power

D is incorrect. This contingency is not addressed in 9ZZ18 and there is no local charging instrument indicator outside the CCP rooms

EXAMINATION ANSWER KEY

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9

ID: Q0978

Points: 1.00

Given the following conditions:

- Excore power decreases to 98%.
- T_{avg}/T_{ref} Hi-Lo Alarm Window 4A08B on B04
- RCS temperatures decrease
- Pressurizer level and pressure decrease.
- COLSS, CPC, & PDIL alarms
- Letdown flow is decreasing

10 minutes later the following conditions are observed:

- Excore power has recovered to ~ 100%
- T_{avg} has stabilized, but 2°F off program low
- Pressurizer level and pressure have recovered
- COLSS, CPC, & PDIL alarms are still active
- Letdown flow is increasing

Which ONE of the following events has probably occurred?

- A. Letdown leak, perform recovery actions per Loss of Letdown AOP
- B. RCS leak, perform recovery action per Excessive RCS Leakrate AOP
- C. CEA misalignment, perform recovery actions per CEA Malfunctions AOP
- D. Instrument malfunction, perform recovery actions per RRS Malfunctions AOP

Answer: C

EXAMINATION ANSWER KEY

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Question 9 Details

Question Type:	Multiple Choice
Topic:	Q0978 Plant response to slipped CEA Drop
System ID:	978
User ID:	Q0978
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	3
Point Value:	1.00
Cross Reference:	
User Text:	42003AA203
User Number 1:	3.60
User Number 2:	3.80
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 40A0-9ZZ11 (CEA Malf.)

K&A: Ability to determine and interpret the following as they apply to the Dropped Control Rod: Dropped rod, using in-core/ex-core instrumentation, in-core or loop temperature measurements

Justification:

A reactivity insertion due to CEA malfunction should be diagnosed. Should diagnose that temperature changes are driving other plant responses making RCS inventory losses incorrect. An instrument failure would not have resulted in all the listed alarms.

EXAMINATION ANSWER KEY

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10

ID: Q10294

Points: 1.00

Given the following conditions:

Rad Monitor status just prior to Reactor trip are as follows:

- RU-139, Main Steam Line Monitor, is in alert
- RU-140, Main Steam Line Monitor, is in high alarm
- RU-142, Main Steam Line N-16 Monitor, channels 1/2 are alert alarm
- RU-142, Main Steam Line Monitor, channels 3/4 are in high alarm

Current plant conditions

- SG #1 level is 51% WR and increasing
- SG #1 pressure is 1200 psi and stable
- SG #2 level is 28% WR and decreasing
- SG #2 pressure 1070 psi and decreasing
- Containment temperature is 195°F
- Containment pressure 9 psig
- RCPs have been tripped
- All expected ESFAS actuations have initiated
- RU-16, Containment Operating Level Monitor, is in alert

Which of the following mitigation strategies would the CRS direct?

- A. Feed #1 SG to 45% NR, Secure feed to #2 SG
- B. Feed #2 SG to 45% NR, Secure feed to #1 SG
- C. Feed #1 SG at 1360 - 1600 gpm to 45% NR
- D. Feed #2 SG at 1360 - 1600 gpm to 45% NR

Answer: A

EXAMINATION ANSWER KEY

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Question 10 Details

Question Type:	Multiple Choice
Topic:	Q10294 ESD/SGTR directions
System ID:	10294
User ID:	Q10294
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	3.00
Time to Complete:	3
Point Value:	1.00
Cross Reference:	
User Text:	44E09EA22
User Number 1:	3.50
User Number 2:	4.00
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 40EP-9EO09, FRP

K&A: Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments

Justification:

A is correct. SG #1 is non faulted so it should be restored to 45 -60 NR, we are not expected feed a faulted SG with another available for Heat Removal

B is incorrect. SG #2 is faulted, feeding would add to the cooldown, SG #1 is available for HR

C and D are incorrect 1600 gpm is the strategy for a SGTR with steam releasing to atmosphere.

EXAMINATION ANSWER KEY

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11

ID: Q10290

Points: 1.00

Given the following conditions:

- Unit 1 is operating at rated power
- RK window 2B09B (SI CHK LEAK PRESS HI) is alarming
- CRS has entered 40AO-9ZZ02 (Excessive RCS Leakrate)
- Leakage is indicated into the 2A Safety Injection Tank

The following conditions are noted:

- RCS leakrate 2 gpm
- SIT 2A level is 56% NR
- SIT 2A press is 620
- SIT 2A LN PRESS PI-319 reads 1950 psig

Based on these conditions the CRS is required to

- A. Declare SIT 2A INOPERABLE and lower level to within limits per 40OP-9SI03
- B. RCS Operational Leakage is beyond identified LEAKAGE limits, enter condition A of LCO 3.4.14
- C. No LCO entry required but must perform SIT Check Valve Bleed Down per 40AO-9ZZ02
- D. Declare LPSI pump "B" INOPERABLE and lower line press in accordance with Alarm Response

Answer: D

EXAMINATION ANSWER KEY

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Question 11 Details

Question Type:	Multiple Choice
Topic:	Q10290 SIT check valve leakage
System ID:	10290
User ID:	Q10290
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	3.00
Time to Complete:	3
Point Value:	1.00
Cross Reference:	
User Text:	32006A203
User Number 1:	3.30
User Number 2:	3.70
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: Tech Specs, 40AL-9RK2B (2b09b) (2b11a), 40AO-9zz02

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

Justification:

A is incorrect. SIT 2A is well within SR of LCO 3.5.1 (28 - 72% & 600 - 625#)

B is incorrect. Identified leakage limit is 10 gpm

C is incorrect see "D"

D is correct. per alarm response and Excessive Leakage AOP LPSI "B" is inoperable with PI-319 > 1850 psig and both LPSI injection valves closed

EXAMINATION ANSWER KEY

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12

ID: Q10279

Points: 1.00

Given the following plant conditions:

- Unit 1 is operating at rated power
- Alarm window 4A01B, PZR PRES HI-LO has annunciated
- PZR pressure was reported as 2150 psia and lowering
- Main spray valves 100E & 100F indicate full open
- All attempts to close Main Spray valves have failed
- PZR pressure continues to lower, currently 2050 psia

Which of the following actions is appropriate for the given conditions?

- A. Close IAA-UV-2, Main Spray valves will close immediately.
- B. Trip the Reactor, trip two RCPs when SIAS/CIAS initiates.
- C. Trip the Reactor, stop the Loop 1 RCPs only and enter the Reactor Trip procedure.
- D. Trip the Reactor, stop all 4 RCPs and enter Loss of Offsite Power/Loss of Forced Circulation procedure.

Answer: D

EXAMINATION ANSWER KEY

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Question 12 Details

Question Type:	Multiple Choice
Topic:	Q10279 Spray valve failed open, EOP entry conditions & response
System ID:	10279
User ID:	Q10279
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	2.00
Time to Complete:	2
Point Value:	1.00
Cross Reference:	
User Text:	2.4.1
User Number 1:	4.30
User Number 2:	4.60
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 40AL-9RK4A, Panel B04A
Alarm Responses

K&A: Emergency Procedures / Plan Knowledge of
EOP entry conditions and immediate action steps.

Justification:

B is incorrect. Shutting IAA-UV-2 was previously an option in the alarm response. PVNGS experienced a plant event where IA was isolated to CNTMT and IA pressure maintained Spray Valves open well past the expected response time

C is incorrect. Examine may pick this option since spray valves come off the Loop 1 cold legs but will not completely stop the pressure decrease.

A is incorrect. This is a strategy for decreasing pressure when a LOCA is diagnosed.

D is correct. per B04A Alarm Response procedure. Must stop all 4 RCPs.

EXAMINATION ANSWER KEY

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13

ID: Q10280

Points: 1.00

Given the following conditions:

- Unit 1 is operating at rated power
- 120 VAC 1E PNL D27 INVERTER C TRBL is alarming
- Auxiliary Operator reports fluctuating output on PNC-N13, "C" class inverter

Assuming that the inverter's performance continues to degrade, which of the following actions would be appropriate?

- A. Enter 40EP-9EO01, (Standard Post Trip Actions) after automatic Reactor Trip
- B. Verify that PNC-D27 has transferred to the "C" voltage regulator (PNC-V27), remain in the current GOP.
- C. Enter 40AO-9ZZ13, (Loss of Class Instrument or Control Power) and bypass all PPS Channel "C" bistables not bypassed in other channels.
- D. Verify that only the RTSG breaker "C" opened, enter Tech Spec 3.3.4 (RPS Logic and Trip Initiation) for any other RTSG breakers that opened due to this failure.

Answer: C

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Question 13 Details

Question Type:	Multiple Choice
Topic:	Q10280 Loss PNC-D27 and effects on RPS
System ID:	10280
User ID:	Q10280
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	3.00
Time to Complete:	2
Point Value:	1.00
Cross Reference:	
User Text:	37012A204
User Number 1:	3.10
User Number 2:	3.20
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: Loss of Class Instrument or Control Power 40AO-9ZZ13

K&A: Ability to (a) predict the impacts of the following malfunctions or operations on the RPS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Erratic power supply operation

Justification:

A is incorrect. Although RTSG breakers A & C will open there is no automatic Rx trip.

B is incorrect. In Unit 1 there is no auto transfer from class inverter to class voltage regulator

C is correct. These steps are found in 40AO-9ZZ13

D is incorrect. Both the A and C RTSG breakers open entry into TS is not required. examine may associate channel C and only 1 breaker opening

EXAMINATION ANSWER KEY

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14

ID: Q10380

Points: 1.00

Given the following conditions:

- Unit 1 is in a Midloop condition
- Maintenance requests permission to re-lug ESFAS jumper leads

Prior to this Work Order being released to the field, who (by title) is responsible to verify the proper RCS perturbation code?

- A. Releasing Organization and Outage Coordinator
- B. Outage Coordinator and Midloop Operations Coordinator
- C. Releasing Organization and Operations Shift Manager
- D. Midloop Operations Coordinator and Operations Shift Manager

Answer: D

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

Question 14 Details

Question Type:	Multiple Choice
Topic:	Q10380 who determines pert codes
System ID:	10380
User ID:	Q10380
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	3.00
Time to Complete:	3
Point Value:	1.00
Cross Reference:	
User Text:	2.2.18
User Number 1:	2.30
User Number 2:	3.60
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 40OP-9ZZ16 (RCS Drain Ops) & 40OP-9ZZ20 (Reduced Inventory Ops)

K&A: Knowledge of the process for managing maintenance activities during shutdown operations.

Justification:
D is the correct answer. By procedure 40OP-9ZZ20 Appendix A, only these 2 control this activity. The releasing organization and outage coordinator control clearances and other activities (making them seem correct), but not work orders, making A, B, and C incorrect.

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

15

ID: Q10281

Points: 1.00

Given the following conditions:

- Unit 3 is operating at rated power
- The "A" train CEDM cooling fans (A02A/A02C) are running

THEN

- Alarm window 7A9B, CEDM ACU COOLS SYS TRBL alarms
- The Operator observes that both CEDM cooling fans A02A/A02C have brighter than normal green lights

Which of the following correctly describes the condition of CEDM cooling fans, "B" train CEDM fans should

- A. start immediately, if not Reactor must be tripped within 40 minutes of loss of cooling
- B. start immediately, if no cooling restored plant cooldown must be commenced within 40 minutes of loss of cooling
- C. start within 2 minutes, if no cooling restored plant cooldown must be commenced within 40 minutes of loss of cooling
- D. start within 2 minutes, if no cooling restored Reactor must be tripped within 40 minutes of loss of cooling

Answer: D

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

Question 15 Details

Question Type:	Multiple Choice
Topic:	Q10281 Loss of CEDM cooling fans
System ID:	10281
User ID:	Q10281
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	3.00
Time to Complete:	3
Point Value:	1.00
Cross Reference:	
User Text:	35022A201
User Number 1:	2.50
User Number 2:	2.70
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: Panel B07A Alarm Responses (40AL-9RK7A), Loss of HVAC (40AO-9ZZ20)

K&A: Ability to (a) predict the impacts of the following malfunctions or operations on the CCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Fan motor over-current

Justification:

A and B are incorrect. B trains fan will not start immediately, there is time delay installed in the auto start feature to allow time for damper closing

C is incorrect. per Loss of HVAC procedure actions must be taken to ensure the unit is shutdown within 40 minutes. Cooldown to < 300 degrees must be completed within 4 hours

D is correct. The B train fans have a 2 minute time delay and 40AO-9ZZ20 directs reactor trip if cooling not restored within 40 minutes.

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

16

ID: Q10381

Points: 1.00

Given the following conditions:

- A steam break in the turbine building has occurred and was isolated by an MSIS.
- AFA-P01 - overspeed trip following the AFAS actuation
- AFB-P01 - 86 lock-out trip following the AFAS actuation
- AO reports that AFB motor is smoking and physically damaged.
- Both SG levels are 20% WR and slowly lowering
- Feed rate to both SGs is 0 gpm.

Which one of the following actions should the CRS perform or direct in order to restore the RCS Heat Removal safety function?

- A. Reset the 86 lock-out and restart AFB-P01 after 40EP-9EO06 (LOAF) is entered
- B. Reset AFA-P01 overspeed trip and establish feed prior to exiting Standard Post Trip Actions
- C. Depressurize a SG and establish feedflow with a Condensate pump after 40EP-9EO06 (LOAF) is entered
- D. Override the Downcomer isolation valves and establish feed using AFN-P01 prior to exiting the Standard Post Trip Actions

Answer: D

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

Question 16 Details

Question Type:	Multiple Choice
Topic:	Q10381 recover the RCS heat sink
System ID:	10381
User ID:	Q10381
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	3
Point Value:	1.00
Cross Reference:	
User Text:	32002A204
User Number 1:	4.30
User Number 2:	4.60
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: EOP Operations Expectations, 40EP-9EO01 (SPTAs). Relay Resetting (40DP-9OP02)

K&A: Ability to (a) predict the impacts of the following malfunctions or operations on the RCS; and (b) based on those predictions, use procedures to correct, control or mitigate the consequence of those malfunctions or operations. Loss of Heat Sink.

Modified from Q1281

Justification:
EOP Operations Expectations for SPTA step 7 allows "any available methods to restore feedwater may be used" and "starting AFN-P01. Therefore MSIS can be overridden on the downcomer isolation valves and AFN used to feed.

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

17

ID: Q10309

Points: 1.00

Given the following conditions:

- Unit 1 is in Mode 6
- Core off-load is in progress
- Refueling pool level is 137 feet 10 inches
- Refueling boron concentration is 3250 ppm
- LPSI "A" is in service providing SDC flow at 4100 gpm
- Reactor Operator reports RU 37 & 38, Power Access Purge monitors, are slowly trending up
- LSRO informs the CRS that a Fuel Assembly has been dropped in the Refueling Pool

Which one of the following actions is appropriate?

- A. Increase SDC flow per 40OP-9SI01, SDC initiation
- B. Initiate containment evacuation per 40A0-9ZZ22, Fuel Damage
- C. Increase Refueling Pool boron concentration per 40EP-9EO11, LMFRP
- D. Initiate/verify CPIAS/FBEVAS per 74RM-9EF41, Radiation Monitoring System Alarm Response

Answer: B

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

Question 17 Details

Question Type:	Multiple Choice
Topic:	Q10309 Determine whether or not the Irradiated Fuel Damage AOP should be executed.
System ID:	10309
User ID:	Q10309
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	3.00
Time to Complete:	4
Point Value:	1.00
Cross Reference:	
User Text:	38034A201
User Number 1:	3.60
User Number 2:	4.40
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 40AO-9ZZ22 (Fuel Damage)

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

Justification:

A is incorrect. may seem a reasonable action to increase SDC flow to upper limit to facilitate RCS cleanup

B is correct. Step 3.2 of 9ZZ22 direct containment evacuation

C is incorrect. may seem a reasonable action to raise boron concentration for reactivity control if conditions are interpreted as a loss of shutdown margin.

D is incorrect. Step 3.3 direct CPIAS and CREFAS actuation, not FBEVAS.

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

18

ID: Q10311

Points: 1.00

Given the following conditions:

- Unit 3 is operating at rated power
- Nuclear Cooling Water Pump A is in service
- Turbine Cooling Water Pump A is in service
- Plant Cooling Water Pump B is in service
- House electrical loads are on the Aux transformer

Outage preparations are in progress. While moving scaffolding in the non-class switchgear room, a piece of scaffolding hits the handswitch to breaker NBN-S02A (bus feeder breaker) causing the breaker to open.

Assuming all systems operate as designed, which of the following best describes the initial mitigating actions?

- A. Take actions per 40AO-9ZZ03, Loss of Cooling Water
- B. Take actions per 40OP-9ED01, Section 8 (Single Heater Drain Pump Operations)
- C. Take actions per 40AO-9ZZ09, Reactor Power Cutback (Loss of Feedpump)
- D. Take actions to verify that NBN-S02 loads have transferred to NBN-S01 by the auto closure of breaker NBN-S01C

Answer: C

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

Question 18 Details

Question Type:	Multiple Choice
Topic:	Q10311 effects of a loss of NBN-S02
System ID:	10311
User ID:	Q10311
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	4
Point Value:	1.00
Cross Reference:	
User Text:	34056A204
User Number 1:	2.60
User Number 2:	2.80
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 40AO-9ZZ09, Loss of Feedpump and 40OP-9ZZ05, Power Operations

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

Justification:

A is incorrect. TCW and NCW standby pumps will start on loss of Cooling Water

D is incorrect. Fast bus transfer only works for a faulted transformer

C is correct this will cause a loss of 1 condensate pumps and 1 heater drain pump. RPCB will initiate

B is incorrect. Although ED01 may be performed after one hour the initial steps will be to stabilize the plant first

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

19

ID: Q10382

Points: 1.00

Given the following conditions:

- Unit 1 is operating at rated power
- CEAs begin driving inward
- CR megawatt meter MAN-JIW-G01 indicates 1240 MW
- Tave is 587°F
- Tref is 583°F
- Window 4A12B, TURB BYP DEMAND, is alarming
- SGN-PT-1001 is coming open with a full open demand
- CDN-PT-47 indicates 2.0 inches mercury, A shell
- CDN-PT-48 indicates 1.9 inches mercury, B shell
- CDN-PT-49 indicates 2.4 inches mercury, C shell

The Crew should take actions in accordance with ...

- A. 40AO-9ZZ08, Load Rejection
- B. 40AO-9ZZ11, CEA Malfunctions
- C. 40AO-9ZZ16, RRS Malfunctions
- D. 40AO-9ZZ07, Loss of Condenser Vacuum

Answer: A

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

Question 19 Details

Question Type:	Multiple Choice
Topic:	Q10382 partial Load Reject, pick correct AOP
System ID:	10382
User ID:	Q10382
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	3.00
Time to Complete:	3
Point Value:	1.00
Cross Reference:	
User Text:	2.1.7
User Number 1:	3.70
User Number 2:	4.40
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 40AO-9ZZ08 (Load Rejection)

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

Justification:

The correct answer is A. Stem information should be diagnosed as a partial load reject based on differences between rated power and 1240 MW. This would cause CEA insertion, making B incorrect. Temperatures and condenser vacuum are appropriate for conditions making C and D incorrect.

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

20

ID: Q10283

Points: 1.00

Given the following conditions:

- Unit 2 is currently at 85% power with both Circulating Water (CW) trains in service.
- A Condenser tube leak in the A Circulating Water train has been confirmed.
- A normal downpower is in progress in order to remove the ruptured CW train from service.
- The ability to stabilize power at 40% has been verified.
- At the present rate 40% power will be achieved in approximately 50 minutes.

THEN

- Chemistry reports that Steam Generator sodium (Na) and chloride (Cl) are increasing rapidly
- It is determined that Rx trip limits will be reached within 20 minutes.

Based on this report, the CRS should direct which of the following actions...

- A. Trip the Reactor, Perform SPTAs, trip both Main Feedwater pumps
- B. Trip the Reactor, Perform SPTAs, align high rate blowdown to the Blowdown Flash Tank (BFT)
- C. Initiate Reactor Power Cutback (Loss of Feedpump), align high rate blowdown to the Blowdown Flash Tank (BFT)
- D. Initiate Reactor Power Cutback (Loss of Feedpump), place all available Condensate Demin beds in service

Answer: A

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

Question 20 Details

Question Type:	Multiple Choice
Topic:	Q10283 Rx trip based on chemistry trend
System ID:	10283
User ID:	Q10283
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	2
Point Value:	1.00
Cross Reference:	40AO-9ZZ10
User Text:	2.1.34
User Number 1:	2.30
User Number 2:	2.90
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 40AO-9ZZ10, Condenser Tube Rupture

K&A: Conduct of Operations, Ability to maintain primary and secondary plant chemistry within allowable limits.

Modified from Q77125

Justification:

A is correct. per appendix O rx trip is required, "O" sends you to appendix M which trips both MFPs

B is incorrect. per appendix O rx trip is required, "O" sends you to appendix M which isolates blowdown to the BFT

C & D are incorrect. At this point there is no option for RPCB. RPCB could be used for the initial power reduction which may give the examine a reason to pick these distracters

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

21

ID: Q27796

Points: 1.00

Given the following conditions:

- Unit 1 is in Mode 6
- Fuel movement is in progress
- It is discovered that both CPIAS actuation logics are Inoperable.

Which of the following actions is the **MINIMUM** required to comply with Tech Spec 3.3.8, Containment Purge Isolation Actuation Isolation Signal?

- A. Close containment purge and exhaust valves within 15 minutes.
- B. Suspend core alterations and movement of irradiated fuel within 15 minutes.
- C. Immediately close the containment purge and exhaust valves **OR** suspend core alterations and movement of irradiated assemblies in Containment.
- D. Immediately close the containment purge and exhaust valves **AND** suspend core alterations and movement of irradiated fuel in Containment.

Answer: C

Question 21 Details

Question Type:	Multiple Choice
Topic:	Q27796 T.S. 3.3.8 CPIAS
System ID:	6449
User ID:	Q27796
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	3.00
Time to Complete:	3
Point Value:	1.00
Cross Reference:	
User Text:	2..1.11
User Number 1:	3.00
User Number 2:	3.80
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: Tech Specs 3.3.8, CPIAS

K&A: 2.1.11 knowledge of less than one hour technical specification action statements for systems

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

22

ID: Q10286

Points: 1.00

Given the following conditions:

- Unit 1 is operating at rated power
- Unit 3 is operating at rated power
- CEACs 1A & 2B have failed in Unit 1
- CEACs 1 & 2 have failed in Unit 3

Which of the following represents a correct response to the failed CEACs?

Unit 1 enters inop code "1" (1)

Unit 3 enters inop code "3" (2)

- A. (1) in CPC "A" and inop code 2 in CPC "B", verify CEA positions every 4 hours
(2) in all 4 CPCs, no further action required if CEACs restored within 7 days
- B. (1) in CPCs "A" & "B", no further action required if CEACs restored within 7 days
(2) in all 4 CPCs, no further action required if CEACs restored within 7 days
- C. (1) in CPC "A" and inop code 2 in CPC "B", verify CEA positions every 4 hours
(2) in all 4 CPCs and must place CEDMCS in standby and disable the RPCB system within 4 hours
- D. (1) in CPCs "A" & "B", no further action required if CEACs restored within 7 days
(2) in all 4 CPCs and must place CEDMCS in standby and disable the RPCB system within 4 hours

Answer: C

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

Question 22 Details

Question Type:	Multiple Choice
Topic:	Q10286 Failed CEAC response differences between old and new CPCs
System ID:	10286
User ID:	Q10286
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	3.00
Time to Complete:	4
Point Value:	1.00
Cross Reference:	72AO-9SB01
User Text:	2.2.3
User Number 1:	3.10
User Number 2:	3.30
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: Technical Specifications 3.3.3

K&A: Equipment Control (multi-unit) Knowledge of the design, procedural, and operational differences between units

Justification:

A is incorrect. (1) codes are correct action is correct per TS 3.3.1 (new CPCs), (2) is wrong there are numerous 4 hour requirements per TS 3.3.1 (old CPCs)

B is incorrect. wrong codes inserted, "B" cpc gets a code 2, (2) is wrong there are numerous 4 hour requirements per TS 3.3.1 (old CPCs)

C is correct. (1) codes are correct action is correct per TS 3.3.1 (new CPCs), (2) codes are correct and actions are correct per TS 3.3.1 (old CPCs)

D is incorrect. wrong codes inserted, "B" cpc gets a code 2, actions are wrong, (2) codes are correct and actions are correct per TS 3.3.1 (old CPCs)

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

23

ID: Q10289

Points: 1.00

Given the following conditions:

- A VCC (vertical concrete cask) is being transported from Unit 3 to the ISFSI
- As the LOADED VCC is passing behind Unit 2, the transporter derails
- The VCC mispositions, causing possible damage to the Confinement Boundry
- RP is performing surveys at this time

Who is required to make any applicable Unit Log entries (1) and/or E-plan classifications (2) ?

- A. (1) Unit 1 Shift Manager, (2) Unit 1 Shift Manager
- B. (1) Unit 1 Shift Manager, (2) Unit 3 Shift Manager
- C. (1) Unit 3 Shift Manager, (2) Unit 1 Shift Manager
- D. (1) Unit 3 Shift Manager, (2) Unit 3 Shift Manager

Answer: D

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

Question 23 Details

Question Type:	Multiple Choice
Topic:	Q10289 Knowledge of SRO responsibilities during VCC transport
System ID:	10289
User ID:	Q10289
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	3.00
Time to Complete:	2
Point Value:	1.00
Cross Reference:	40DP-9OP02, 13.3
User Text:	2.3.3
User Number 1:	1.80
User Number 2:	2.90
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 40DP-9OP02, 13.3 (Conduct of Shift OPS)

K&A: Radiation Control, Knowledge of SRO responsibilities for auxiliary systems that are outside the control room (e.g., waste disposal and handling systems).

Justification:

D is the correct answer. Step 13.3 states that the SM within the unit is also responsible for transport and any E-plan implementation until the VCC is in its designated storage location

Candidate not familiar with this requirement may choose any answer that includes Unit 1 as they are responsible at all other times for ISFSI operations and E-Plan classifications common to all units.

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

24

ID: Q10310

Points: 1.00

Given the following conditions:

- Unit 1 is operating at rated power
- Pre job brief is being conducted for a resin transfer to a specialized high integrity container (HIC)
- The only available qualified Auxiliary Operator (AO) has a current dose of 1400 mrem for the year
- Radiation Protection estimates exposure at 150 to 200 mrem to the AO

What is the minimum level of approval required (if any) for this AO to perform the scheduled task?

- A. No special approval required
- B. Approval required by Radiation Protection Department Leader
- C. Approval required by Operations Department Leader
- D. Approval required by Site Radiation Protection Director

Answer: B

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

Question 24 Details

Question Type:	Multiple Choice
Topic:	Q10310 exposure limits approvals
System ID:	10310
User ID:	Q10310
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	2
Point Value:	1.00
Cross Reference:	75DP-9RP01
User Text:	2.3.4
User Number 1:	2.50
User Number 2:	3.10
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 75DP-9RP01

K&A: Radiation Control Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized.

Justification:

Step 3.11.2.2 list the following criteria:

- For a hold point > than 1500 mr.yr - RP Department Leader approval required
- For a hold point > than 2000 mr.yr - Director Site RP approval required
- For a hold point > than 2500 mr.yr - ALARA committee chairman approval required

B is correct answer,

No approval may seem reasonable if limits not known.

OPS Department Leader approval may seem appropriate if examine is unaware of the rules. RP director may seem appropriate but Dept Leader is by procedure.

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

25

ID: Q10383

Points: 1.00

Given the following conditions:

- Unit 1 has tripped from rated power
- Pressurizer pressure is 2000 psia and lowering
- Pressurizer level is 19% and lowering
- Containment pressure is 4.0 psig and rising
- RCS subcooling is 50°F and increasing
- SG 1 pressure is 1170# and stable
- SG 1 level is 20% NR and recovering
- SG 2 pressure is 950# and lowering
- SG 2 level is 40% WR and lowering

In addition to SIAS/CIAS which one of the following sets of alarms is consistent with **CURRENT** plant conditions?

- A. MSIS and AFAS-2, enter Functional Recovery procedure
- B. CSAS and AFAS-2, enter Excess Steam Demand procedure
- C. CSAS and SG 1 > SG 2 CH TRIP, enter Functional Recovery procedure
- D. MSIS and SG 1 > SG 2 CH TRIP, enter Excess Steam Demand procedure

Answer: D

EXAMINATION ANSWER KEY

2007 NRC Senior Reactor Operator Exam

Question 25 Details

Question Type:	Multiple Choice
Topic:	Q10383 determine an ESD and correct alarms
System ID:	10383
User ID:	Q10383
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	3
Point Value:	1.00
Cross Reference:	
User Text:	2.4.46
User Number 1:	3.50
User Number 2:	3.60
Comment:	Proposed reference to be provided to applicant during examination: NONE

Technical Reference: 41AL-1RK5A, window 5A07C; 40AL-9RK5B, window 5B07C; 40EP-9EO05 Excess Steam Demand.

K&A: Ability to verify that the alarms are consistent with the plant conditions.

Justification:

Answer D is correct. Excess Steam Demand should be diagnosed. Candidate must determine based on stem information that there is no other current event or jeopardized safety function, making the Functional Recovery (answers A and C) incorrect. Low steam pressure and delta P make answer D incorrect. Although containment pressure is rising, CSAS is not warranted, making B incorrect.