

SRO

INITIAL SUBMITTAL OF THE WRITTEN EXAMINATION

FOR THE DAVIS-BESSE INITIAL EXAMINATION - MARCH 2002

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	000-005-AK1.03	
	Importance Rating	3.2	3.6

Proposed Question: 1

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- b./d. Negative reactivity from xenon is added in the SDM calculation.
- c. A stuck control rod uses a different reactivity worth curve which lowers the reactivity worth of the control rods.

Technical Reference(s):
 Tech. Spec. 3.1.1.1
 DB-NE-06201
 DB-NE-06202

Reference Attached: _____
 (Attach if not
 previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OLC-BAT-256-03K

Question Source: Bank # _____
 Modified Bank # _____ (Note changes or attach parent)
 New X

Question History Previous NRC Exam _____
 Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
 Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .5
 55.43 _____

Comments (Why is it an upper level question):

Question: 1

The reactor was at 100% power. A reactor trip occurred 30 minutes ago. The most reactive control rod failed to insert and has been determined to be immovable.

How is the shutdown margin (SDM) effected by the following reactivity effects?

- a. Xenon will increase the SDM; the stuck control rod will lower the SDM.
- b. Xenon has no effect on the SDM; the stuck control rod has no effect on the SDM.
- c. Xenon will increase the SDM; the stuck control rod has no effect on the SDM.
- d. Xenon has no effect on the SDM; the stuck control rod will lower the SDM.

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	000-015/017-AK3.01	
	Importance Rating	2.5	3.1

Proposed Question: 2

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. RCP 2-2 is powered from A bus.
- b. A sheared shaft would cause a lower than normal amp reading.
- d. A loss of seal injection would not cause excessive amp reading.

Technical Reference(s):
DB-OP-02515

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-115-01K

Question Source:	Bank #	_____	(Note changes or attach parent)
OLC-6531	Modified Bank #	<u> X </u>	
	New	_____	

Question History	Previous NRC Exam	_____
	Previous Quiz / Test	_____

Question Cognitive Level:	Memory or Fundamental Knowledge	_____
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> .7 </u>
	55.43	_____

Comments (Why is it an upper level question):

Examinee must recognize amps are high and apply to the cause of the alarm.

ORIGINAL

Question: 2

- The plant is operating at 100%.
- Chemistry is conducting a chemical shock procedure on the RCS System in preparation for an outage.

The following conditions are observed:

- Annunciator alarm 6-5-A, MONITOR SYSTEM TRBL, is received.
- RCP 2-2 indicates 450 amps.
- RCP 1-1 indicated 260 amps.

Which one of the following statements would explain the listed conditions?

- a. RCP 2-2 is undergoing a flow oscillation due to the RCS chemistry excursion.
- b. RCP 1-1 has sheared shaft.
- c. RCP 2-2 is experiencing mechanical friction.
- d. RCP 1-1 has experienced a seal failure.

Answer:

c.

Question: 2

The following plant conditions exist:

- The plant is operating at 100%.
- Annunciator Alarm 6-5-A, MONITOR SYSTEM TRBL, is received.
- RCP 2-2 indicates 450 amps.

Which one of the following statements would explain the listed conditions?

- a. B Bus voltage is low.
- b. RCP 2-2 has a sheared shaft.
- c. RCP 2-2 upper motor bearing is failing.
- d. MU 66B has failed closed.

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	BW/E09-EK3.4	
	Importance Rating	3.8	3.8

Proposed Question: 3

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. Two SROs required to deviate from procedure.
- b./ d. Do not have to wait if directed by Unit Supervisor with agreement from the Shift Manager or Shift Engineer.

Technical Reference(s):
DB-OP-01003

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-300-06K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .10
55.43 _____

Comments (Why is it an upper level question):

N/A

Question: 3

The reactor and all four RCPs were tripped from 100% power due to a loss of cooling water. Both AFPTs tripped on overspeed. The secondary side Reactor Operator:

- a. CAN start the MDFP immediately, if he/she announces his/her intended action in accordance with Specific Rule 4, SG Level Setpoints.
- b. CAN NOT start the MDFP until Step 4.8, Check for SFRCS Actuation, is reached in DB-OP-02000.
- c. CAN start the MDFP immediately with permission from the Unit Supervisor and the Shift Manager.
- d. CAN NOT start the MDFP until directed to use Attachment 1, Guidelines for Restoring Feedwater.

Answer:

c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	000-024-AK3.01	
	Importance Rating	4.1	4.4

Proposed Question: 4

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. This scenario is not a loss of boron.
- b. Specific Rule 1 actions are only required if count rate is increasing.
- c. E2 and F2 are de-energized on an ATWS, not stuck control rods.

Technical Reference(s):
DB-OP-02000

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-303-05K

Question Source:	Bank #	_____	(Note changes or attach parent)
OLC-4416	Modified Bank #	<u> X </u>	
	New	_____	

Question History	Previous NRC Exam	_____
1995 Quiz	Previous Quiz / Test	<u> X </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	_____
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> .10 </u>
	55.43	_____

Comments (Why is it an upper level question):

Question requires analyzing condition and applying the correct actions to ensure shutdown margin is maintained.

ORIGINAL

Question: 4

Immediately following a reactor trip, the following conditions exist:

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

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

- a. Immediately enter DB-OP-02510, Loss of Reactor Coolant System Boron, and initiate immediate boration per Step 4.1.2.
- b. Immediately enter DB-OP-02516, CRD Malfunctions, and attempt to insert Safety Group 3.
- c. Enter DB-OP-02000, RPS, SFAS, SFRCS, or SG Tube Rupture, and at Step 3.2, Reactivity Control, momentarily de-energize E2 and F2.
- d. Enter DB-OP-02000, RPS, SFAS, SFRCS, or SG Tube Rupture; and at Step 4.1 commence boration to 2100 ppmB.

Answer:

d.

Question: 4

Immediately following a reactor trip, the following conditions exist:

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

Which one of the following identifies the correct action for this situation in accordance with DB-OP-02000, RPS, SFAS, SFRCS, or SG Tube Rupture?

- a. Route to DB-OP-02510, Loss of Reactor Coolant System Boron, at the completion of the Supplementary Actions.
- b. Initiate emergency boration until adequate shutdown margin is restored in accordance with Specific Rule 1, Reactivity Control.
- c. Momentarily de-energize E2 and F2 in accordance with the Immediate Actions.
- d. Commence boration to achieve acceptable shutdown margin in accordance with the Supplementary Actions.

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	000-026-AK3.04	
	Importance Rating	3.5	3.7

Proposed Question: 5

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- b. Seal injection is not required because RCPs are off.
- c. Adequate SDM exists without adding additional boron.
- d. HPI and LPI pumps can be started and run for up to one hour without cooling water if needed.

Technical Reference(s):
DB-OP-02523 Abnormal Procedure Discussion

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-123-02K

Question Source: Bank # _____
 Modified Bank # _____ (Note changes or attach parent)
 New X

Question History Previous NRC Exam _____
 Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
 Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .10
 55.43 _____

Comments (Why is it an upper level question):

Question: 5

Following a loss of all CCW pumps, a makeup pump can be operated for up to one hour without cooling water in order to:

- a. allow post-trip pressurizer level recovery.
- b. provide seal injection since CCW is lost to the RCPs.
- c. ensure a boron injection flowpath is available to maintain shutdown margin $\geq 1\% \Delta K/K$ until xenon can add adequate negative reactivity.
- d. prevent the need to start HPI pumps and LPI pumps since CCW essential headers are NOT available.

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	BW/E05-EA1.1	
	Importance Rating	4.2	4.2

Proposed Question: 6

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a./c. Cannot use both injection lines with suction aligned to the MU tank.
- b. MU flow limited to < 250 gpm unless piggybacked from LPI. Procedure does not piggyback for an overcooling event.

Technical Reference(s):
DB-OP-02000

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-106-14K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .3
55.43 _____

Comments (Why is it an upper level question):

Question: 6

During an overcooling event, pressurizer level lowers to four inches. RCS inventory should be maintained by running both makeup pumps with suction from the:

- a. makeup tank at maximum flow through both makeup injection lines.
- b. BWST at maximum flow through both makeup injection lines.
- c. makeup tank with flow limited to 250 gpm through each makeup injection line.
- d. BWST with flow limited to 250 gpm through each makeup injection line.

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	000-051-GEN 2.4.8	
	Importance Rating	3.0	3.7

Proposed Question: 7

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a./c. Immediate actions are performed first on a reactor trip.
- b. Specific Rule 6 for loss of D1 bus is performed prior to routing to Supplementary Actions.

Technical Reference(s):
DB-OP-01003

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-300-05K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .10
55.43 _____

Comments (Why is it an upper level question):

Question: 7

The following plant conditions exist:

- A reactor startup is in progress.
- An electrical problem has caused a loss of D2 Bus and D1 Bus.
- The auxiliary boiler has tripped and condenser pressure is increasing.
- The MDFP has tripped.

Place the following in the correct hierarchy of performance:

1. DB-OP-02518, High Condenser Pressure
 2. DB-OP-02000, Immediate Actions
 3. DB-OP-02000, Supplementary Actions
 4. DB-OP-02000, Specific Rules
 5. DB-OP-02521, Loss of AC Bus Power Sources
-
- a. 5, 2, 3, 4, 1
 - b. 2, 3, 4, 1, 5
 - c. 5, 1, 2, 4, 3
 - d. 2, 4, 3, 1, 5

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	000-057-AA2.11	
	Importance Rating	2.9	3.0

Proposed Question: 8

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

a./b./d. Control power to MFPT 2 is supplied from Panel YBU. Loss of Y2, Y4, or YBR will not effect MFPT 2 speed.

Technical Reference(s):
DB-OP-02542

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-141-08A

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .4
55.43 _____

Comments (Why is it an upper level question):

Question: 8

A loss of _____ will cause MFPT 2 to be driven to zero speed.

- a. Essential Panel Y2
- b. Essential Panel Y4
- c. Panel YBU
- d. Non-Essential Panel YBR

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	BW/A06-GEN 2.4.5	
	Importance Rating	2.9	3.6

Proposed Question: 9

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

a./c./d. Control Room Evacuation procedure and the Fire Procedure do not take priority over DB-OP-02000 IAW DB-OP-01003.

Technical Reference(s):
DB-OP-01003

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-119-05K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .10
55.43 _____

Comments (Why is it an upper level question):

Question: 9

Direction provided in DB-OP-02000, RPS, SFAS, SFRCs Trip, or SG Tube Rupture, takes priority over abnormal procedures with the exception of:

- a. DB-OP-02508, Control Room Evacuation and DB-OP-02519, Serious Control Room Fire.
- b. DB-OP-02501, Serious Station Fire and DB-OP-02519, Serious Control Room Fire.
- c. DB-OP-02508, Control Room Evacuation and DB-OP-02529, Fire Procedure.
- d. DB-OP-02501, Serious Station Fire and DB-OP-02529, Fire Procedure.

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	000-074-EK2.06	
	Importance Rating	3.5	3.6

Proposed Question: 10

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a./b. DB-OP-02000 directs cooldown at the maximum attainable rate.
- c. DB-OP-02000 directs cooldown the RCS until LPI flow is established.

Technical Reference(s):
DB-OP-02000

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-304-05K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .8
55.43 _____

Comments (Why is it an upper level question):

Question: 10

The following plant conditions exist:

- The plant was at 100% power.
- Adequate subcooling margin has been lost due to a small break loss of coolant accident.
- There is NO makeup OR HPI flow available.

Which one of the following is the correct response to these conditions?

Fully open the AVVs to cooldown the RCS at:

- a. 100°F/hour until CFTs begin to empty.
- b. 100°F/hour until LPI flow has been established.
- c. the maximum attainable rate until CFTs begin to empty.
- d. the maximum attainable rate until LPI flow has been established.

Answer:

- d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	BW/E03-EA2.02	
	Importance Rating	3.5	4.0

Proposed Question: 11
See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- b. SG tube stresses are caused by temperature differences between the SG tubes and shells.
- c. Heat input from the RCPs is only a concern during a lack of heat transfer event.
- d. RCPs would not cavitate until a loss of all RCS inventory in the RCS loops had occurred.

Technical Reference(s): DB-OP-02000 Technical Basis Document Reference Attached: _____
(Attach if not previously provided)

Proposed references to be provided to applicants during examination:
None

Learning Objective (As available): OPS-GOP-304-05K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .3
55.43 _____

Comments (Why is it an upper level question):

Question: 11

Which one of the following explains why the reactor coolant pumps are tripped following a loss of adequate subcooling margin?

- a. Prevent possible uncovering the core.
- b. Reduce tension stresses on the steam generator tubes.
- c. Reduce the heat input into the RCS.
- d. Prevent damage to the RCPs due to cavitation.

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	000-076-AK2.01	
	Importance Rating	2.6	3.0

Proposed Question: 12

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- b. CTMT RAD HI is an indication of an RCS leak.
- c. SFAS CTMT RAD HI is an indication of an RCS leak.
- d. VAC SYS DISCH RAD HI is an indication of an SG tube leak.

Technical Reference(s):
DB-OP-02535

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-135-01K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .11
55.43 _____

Comments (Why is it an upper level question):

Question: 12

Which one of the following annunciators, if alarming, is a symptom of high activity in the Reactor Coolant System and requires entry into DB-OP-02535, High Activity in the Reactor Coolant System?

- a. LETDOWN RAD HI (2-1-A)
- b. CTMT RAD HI (4-1-A)
- c. SFAS CTMT RAD CH TRIP (5-1-A)
- d. VAC SYS DISCH RAD HI (9-4-A)

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	000-055-EA1.02	
	Importance Rating	4.3	4.4

Proposed Question: 13

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

a./b./d. These electrical trips are bypassed when the SBODG is manually started from the Control Room.

Technical Reference(s):
DB-OP-06334

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-406-10K

Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
ORQ-0953	Modified Bank #	<u> </u>	
	New	<u> </u>	

Question History	Previous NRC Exam	<u> </u>
1996 Exam	Previous Quiz / Test	<u> X </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> .7 </u>
	55.43	<u> </u>

Comments (Why is it an upper level question):

Must recognize that starting the SBODG from the Control Room bypasses several electrical trips.

Question: 13

The Station Blackout Diesel Generator (SBODG) has been started from the Control Room and loaded on D2 Bus following a station blackout. The SBODG then automatically trips.

Determine which one of the following caused the trip.

- a. Negative phase sequence
- b. Reverse power
- c. Transformer DF8 overcurrent
- d. Ground overcurrent

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	000-062-AA2.06	
	Importance Rating	2.8	3.1

Proposed Question: 14

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. Credit is not taken for the MDFP in safety analysis for a seismic event.
- b. Curbs on the entrances to the AFP rooms prevent flooding.
- d. Curbs on the entrances to the HVSG rooms prevent flooding.

Technical Reference(s):
DB-OP-02511

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-111-02K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .4
55.43 _____

Comments (Why is it an upper level question):

Question: 14

The plant is at 100% power. A seismic event occurs causing a Service Water System break in the TPCW header.

Action is required within three hours to isolate the service water break to prevent:

- a. flooding of the MDFP.
- b. flooding of the AFPs.
- c. loss of ultimate heat sink inventory.
- d. loss of high voltage switchgear buses.

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	000-038-EA1.27	
	Importance Rating	3.9	3.9

Proposed Question: 15

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. 1025 signal cannot be read on the TBV controllers.
- b. 995 signal is only present when the reactor is tripped.
- d. 870 signal is only present when < 92 MWE.

Technical Reference(s):
DB-OP-06401

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-515-04K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .4
55.43 _____

Comments (Why is it an upper level question):

Question: 15

The following plant conditions exist:

- A plant shutdown is in progress due to an SG tube rupture.
- Steam flow is being transferred from the turbine to the Turbine Bypass Valves (TBVs).
- Steam generators are on low level levels.
- Megawatt demand is 220 MWE.

The measured variable display for the TBVs shows the pointer below the carat. This indicates that the TBVs are set to control header pressure at the _____ psig setpoint.

- a. 1025
- b. 995
- c. 920
- d. 870

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	1
	K/A#	000-059-AA2.04	
	Importance Rating	3.2	3.5

Proposed Question: 16

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

a./c./d. Shall not drain contaminated water to circ water, the settling basin, or Training Building Pond.

Technical Reference(s):
DB-OP-02531

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-131-11K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .12
55.43 _____

Comments (Why is it an upper level question):

Question: 16

The following plant conditions exist:

- A plant shutdown and cooldown is in progress due to an 80 gallon per minute steam generator tube leak.
- The Technical Support Center has determined the need to drain the condenser hotwell.

The hotwell drains will be routed to _____ in order to reduce hotwell level.

- a. the Circulating Water System
- b. Condensate Polishing Demin Holdup Tanks
- c. any of the settling basins
- d. Training Building Pond

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	BW/A01-GEN 2.1.30	
	Importance Rating	3.9	3.4

Proposed Question: 17
See Attached

Proposed Answer: See attached

- Explanation (Why the distractors are incorrect):
- a. Output breakers will not open on successful SCW runback.
 - b. Low load limit is not in effect when in track.
 - d. FW and reactor will be matched during the runback.

Technical Reference(s):
DB-OP-02016

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:
None

Learning Objective (As available): OPS-SYS-512-02K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .7
55.43 _____

Comments (Why is it an upper level question):
Must recognize the turbine transfers to manual on an SCW runback, and the turbine in manual places the ICS in track.

Question: 17

The following plant conditions exist:

- The reactor was initially at 40% power.
- A loss of both stator cooling water pumps caused a plant runback.

Which one of the following actions would have to be taken to clear annunciator 14-6-D, ICS IN TRACK?

- a. Reclose the turbine generator output breakers ACB 34560 and ACB 34561.
- b. Adjust reactor power to clear the ULD low load limit.
- c. Transfer turbine control to ICS AUTOMATIC.
- d. Adjust feedwater flow to match reactor power.

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	000-054-AK3.02	
	Importance Rating	3.4	3.7

Proposed Question: 18
See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):
 a. If RFR is abnormal, then SFRCS is manually actuated.
 c./d. MDFP is only started if the AFPs are unavailable.

Technical Reference(s): DB-OP-02000 Technical Bases Reference Attached: _____
 (Attach if not previously provided)

Proposed references to be provided to applicants during examination:
None

Learning Objective (As available): OPS-GOP-303-05K

Question Source: Bank # _____
 Modified Bank # _____ (Note changes or attach parent)
 New X

Question History Previous NRC Exam _____
 Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
 Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .10
 55.43 _____

Comments (Why is it an upper level question):

Question: 18

The following plant conditions exist:

- The reactor was initially at 50% power with MFPT 1 out of service.
- Following an MFPT 2 control system failure, the reactor tripped on high RCS pressure.
- AFW started on low SG levels.
- MFPT 2 is running on the low speed stop.

What action should be taken NEXT based on these conditions?

- a. Place MFPT 2 speed in manual and control steam generators on low level limits to balance steam loads.
- b. Initiate AFW flow and isolation of both SGs to replace the malfunctioning MFW System.
- c. Start the MDFP in the AFW mode and shutdown the AFPTs in preparation for trip recovery.
- d. Start the MDFP in the MFW mode and shut down the AFPTs to conserve water in the condensate storage tanks.

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	BW/E04-EK1.3	
	Importance Rating	4.0	4.0

Proposed Question: 19

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. DB-OP-02000 Immediate Actions are completed prior to symptom checks.
- c./d. Feed and bleed cooling is required immediately if only one MU pump is available.

Technical Reference(s):
DB-OP-02000

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-305-01K

Question Source:	Bank #	_____	(Note changes or attach parent)
ORQ-0098	Modified Bank #	<u> X </u>	
	New	_____	

Question History	Previous NRC Exam	_____
1998 Exam	Previous Quiz / Test	<u> X </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>
	Comprehension or Analysis	_____

10 CFR Part 55 Content:	55.41	<u> .10 </u>
	55.43	_____

Comments (Why is it an upper level question):

ORIGINAL

Question: 19

The reactor has tripped.

Both MFPTs AND both AFW pumps are tripped.

MUP 1-2 is disassembled for maintenance.

MU/HPI cooling should be initiated _____.

- a. immediately.
- b. when the “check for lack of heat transfer” step is reached in the procedure.
- c. when T_{avg} exceeds 600°F if feedwater is NOT restored.
- d. when T_{hot} exceeds 600°F even if feedwater is restored.

Answer:

- a.

Question: 19

The following plant conditions exist:

- The reactor has tripped due to a loss of MFW.
- Both AFW pumps tripped on overspeed.
- The standby makeup pump failed to start.
- MDFP is out of service for maintenance.

MU/HPI cooling should be initiated _____.

- a. immediately upon entry in DB-OP-02000
- b. after completion of the Immediate Actions in DB-OP-02000
- c. when Step 4.10, Check for Lack of Heat Transfer, is reached in the Supplementary Actions of DB-OP-02000
- d. when the first Thot indication reaches 600°F

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	000-058-GEN 2.1.29	
	Importance Rating	3.4	3.3

Proposed Question: 20

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a./b. Loss of D1P/DAP does not affect CCW to the CRDMs or letdown coolers.
- c. CCW pump will continue to run if control power is lost.

Technical Reference(s):
DB-OP-02537

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-137-04K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .10
55.43 _____

Comments (Why is it an upper level question):

Question: 20

The reactor was at 100% when a loss of D1P and DAP occurred.

DB-OP-02537, Loss of D1P and DAP, directs the verification of CCW containment isolation OPEN:

- a. to verify cooling water is available to the CRDMs.
- b. to verify cooling water is available to both letdown coolers.
- c. because CCW Pump 1 has lost control power.
- d. because seal injection is lost to two RCPs.

Answer:

- d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	000-060-AA1.02	
	Importance Rating	2.9	3.1

Proposed Question: 21
See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):
b/c. SI filters are in the FH area
d. Main station exhaust fans do not auto stop on high radiation

Technical Reference(s):
DB-OP-06412

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:
None

Learning Objective (As available): OPS-SYS-109-07K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .11
55.43 _____

Comments (Why is it an upper level question):

Question: 21

The plant is at 100% power.

- Maintenance is in progress on Seal Injection Filter 1.
- A leaking Seal Injection Filter isolation valve has led to high airborne radioactivity.

Which one of the following ventilation systems will automatically shutdown?

- a. The Fuel Handling Ventilation System
- b. The Radwaste Area Ventilation System
- c. The Containment Purge Ventilation System
- d. The Main Station Exhaust System

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	1
	K/A#	000-001-AA2.04	
	Importance Rating	4.2	4.3

Proposed Question: 22

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. Lowering feedwater demand will create a mismatch between feedwater flow and reactor power.
- b. Lowering MWE will create a mismatch between SG heat removal and reactor power.
- d. SG/Rx demand will only reduce feedwater in this scenario.

Technical Reference(s):
DB-OP-02516

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-116-02K

Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
OLC-4488	Modified Bank #	<u> </u>	
	New	<u> </u>	

Question History	Previous NRC Exam	<u> X </u>
1998 NRC Exam	Previous Quiz / Test	<u> </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> .6 </u>
	55.43	<u> </u>

Comments (Why is it an upper level question):

Must diagnose the failure from the information given and determine the correct action to mitigate.

Question: 22

The following plant conditions exist:

- Tave is 584°F and rising.
- Main feedwater flow is rising.
- Reactor power is 92% and rising.
- Neutron error is 2% in the "IN" direction.
- Rod index is 293% and rods are moving out.
- RCS pressure is 2170 psig and rising.
- Diamond panel OUT COMMAND red light is lit.
- Turbine header pressure is 870 psig and stable.
- Generator output is 880 MWE and rising.

The operator should:

- a. put Feedwater Loop Demand HAND/AUTO stations in HAND and reduce feedwater flow.
- b. put the turbine in MANUAL and reduce megawatts.
- c. depress and hold the ROD STOP button.
- d. place the SG/RX Demand HAND/AUTO station in HAND and reduce the demand.

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	BW/E02-EK1.1	
	Importance Rating	3.6	3.6

Proposed Question: 23

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. The power supply light being lit indicates power is available.
- b. Normal post-trip SG level is 40 inches.
- c. Instrument air drops post-trip; minimum pressure is 75 psig.

Technical Reference(s):
DB-OP-02000

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-303-02K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .10
55.43 _____

Comments (Why is it an upper level question):

Must analyze various parameters and determine if an SFRCS actuation is required.

Question: 23

Following a reactor trip, which one of the following would require the initiation of AFW flow and isolation of both steam generators?

- a. NNI X AC power supply indicating light is lit.
- b. Both SG levels indicate 40 inches.
- c. Instrument air header pressure indicates 91 psig.
- d. ICS HAND/AUTO station indicating lights are off.

Answer:

- d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	BW/A04-GEN 2.4.7	
	Importance Rating	3.1	3.8

Proposed Question: 24

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a./c. Turbine Trip AB directs tripping the reactor.
- b. Turbine Trip AB directs manually initiating SFRCS.

Technical Reference(s):
DB-OP-02500

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-101-06K

Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
OLC-4909	Modified Bank #	<u> </u>	
	New	<u> </u>	

Question History	Previous NRC Exam	<u> X </u>
1999 NRC Exam	Previous Quiz / Test	<u> </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> .10 </u>
	55.43	<u> </u>

Comments (Why is it an upper level question):

Must analyze data on plant conditions, determine appropriate AB actions and comprehend resulting status of plant.

Question: 24

The following sequence of events has occurred:

- The main turbine tripped at 35% reactor power.
- Main Stop Valve 1 failed to close.
- Main Control Valve 4 failed to close.

After completion of the appropriate steps of DB-OP-02500, Turbine Trip, the plant status will be:

- a. reactor power at 28%, steam generator level control on low level limits, and steam generator pressure control on TBVs.
- b. reactor power at 0%, steam generator level control on low level limits, and steam generator pressure control on the MSSVs.
- c. reactor power at 28%, steam generator level control on auxiliary feedwater, and steam generator pressure control on TBVs.
- d. reactor power at 0%, steam generator level control on auxiliary feedwater, and steam generator pressure control on the MSSVs.

Answer:

- d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	000-009-EK2.03	
	Importance Rating	3.0	3.3

Proposed Question: 25

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. Tsat for 125 psig is 353°F.
- b. Tsat for 210 psig is 392°F.
- d. Tsat for 400 psig is 448°F.

Technical Reference(s):
DB-OP-02000

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

Steam Tables

Learning Objective (As available): OPS-GOP-308-04K

Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
OLC-4062	Modified Bank #	<u> </u>	
	New	<u> </u>	

Question History	Previous NRC Exam	<u> X </u>
1997 NRC Exam	Previous Quiz / Test	<u> </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> .14 </u>
	55.43	<u> </u>

Comments (Why is it an upper level question):

Must use steam tables to determine correct saturation pressure for a 100°F temperature change.

Question: 25

A plant transient is in progress. Plant conditions are as follows:

- All RCPs are tripped.
- Incore thermocouples indicate 900°F.
- RCS pressure is 200 psig.
- Both SGs are unisolated and pressures are approximately 815 psig.

In accordance with DB-OP-02000, RPS, SFAS, SFRCs Trip, or SG Tube Rupture, Step 9.13, the operator is directed to induce heat transfer from the RCS to the SGs by rapidly lowering BOTH SG pressures to achieve a 100°F step decrease in secondary Tsat.

Which one of the following SG pressures corresponds to this new Tsat condition?

- a. 125 psig
- b. 210 psig
- c. 300 psig
- d. 400 psig

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	1
	K/A#	000-011-EK2.02	
	Importance Rating	2.6	2.7

Proposed Question: 26

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- b. Closing the minimum recirc valves will have a minimal effect on discharge head.
- c. Minimum recirc is 35 gpm and will have a minimal effect on total flow.
- d. Minimum recirc valves are not containment isolation valves.

Technical Reference(s):
DB-OP-06011

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-309-04K

Question Source:	Bank #	<u> X </u>	
OLC-4579	Modified Bank #	<u> </u>	(Note changes or attach parent)
	New	<u> </u>	

Question History	Previous NRC Exam	<u> X </u>
1996 NRC Exam	Previous Quiz / Test	<u> </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>
	Comprehension or Analysis	<u> </u>

10 CFR Part 55 Content:	55.41	<u> .3 </u>
	55.43	<u> </u>

Comments (Why is it an upper level question):

Question: 26

The following plant conditions exist:

- A LOCA is in progress.
- BWST level is 8 feet and decreasing.
- HPI is running and required to be in operation by DB-OP-02000, RPS, SFAS, SFRCS Trip or SG Rupture.

Which one of the following is the reason for closing the HPI recirc valves (HP-32 and HP-31) when placing HPI into the piggyback mode?

- a. Prevent depletion of the containment emergency sump.
- b. Increase the discharge head of the HPI pumps.
- c. Increase the HPI injection flow rate.
- d. Ensure containment integrity is maintained.

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	000-022-AK3.07	
	Importance Rating	3.0	3.2

Proposed Question: 27

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. This action is only required if MUPs are not piggybacked from LPI.
- b. MUP 2 is only injecting through the normal makeup line.
- c. Minimum recirc valves are closed to increase injection flow.

Technical Reference(s):
DB-OP-02000

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-301-03S

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .3
55.43 _____

Comments (Why is it an upper level question):

Must recognize the MU System lineup for MU/HPI cooling and determine MU injection lines are separated.

Question: 27

The following plant conditions exist:

- A loss of all main and auxiliary feedwater has occurred.
- AFTER makeup/HPI cooling has been initiated in accordance with DB-OP-02000, RPS, SFAS, SFRCS Trip, or SG Tube Rupture, Makeup Pump 1 trips due to an electrical fault.

Which one of the following is the correct response to the loss of MU Pump 1?

- a. Throttle MU 32 and MU 6419 to limit injection flow to 250 gpm per makeup line.
- b. Close MU 6421 to prevent runout of Makeup Pump 2.
- c. Open MU 6406 to ensure minimum recirc flow is available for Makeup Pump 2.
- d. No action is required since MU 6409 is closed, separating the makeup injection lines.

Answer:

- d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	000-025-AK1.01	
	Importance Rating	3.9	4.3

Proposed Question: 28

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. MU pumps provide boron injection flowpath in Mode 4.
- b. Both RCS loops are operable in Mode 4.
- d. Only one ECCS loop is required to be operable in Mode 4.

Technical Reference(s):
Tech. Specs. 3/4.4.2

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-434-01K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .8
55.43 _____

Comments (Why is it an upper level question):

Must determine the plant is in Mode 4 and apply correct Tech. Spec.

Question: 28

The following plant conditions exist:

- Plant heatup is in progress.
- RCS temperature is 210°F.
- RCS pressure is 250 psig.
- Loop 2 RCPs are running.
- DH Train 2 is aligned in the decay heat mode.
- DH Train 1 is aligned in the LPI mode.
- A leak develops in the Decay Heat System requiring DH Pump 2 to be stopped and DH 12 DH NORMAL SUCTION ISOLATION, to be closed.

Which one of the following Tech. Specs. should be entered?

- a. 3.1.2.2 for an inoperable boron injection flowpath.
- b. 3.4.1.2 since less than two coolant loops are operable.
- c. 3.4.2 for an inoperable DHR relief valve, DH 4849.
- d. 3.5.3 since only one ECCS subsystem is operable.

Answer:

c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	000-032-AA2.06	
	Importance Rating	3.9	4.1

Proposed Question: 29

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. NI 1 is de-energized.
- b. NR NI 3-1 is not on scale.
- c. Annunciator comes in when SRNIs are initially energized.

Technical Reference(s):
DB-OP-02505

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-105-04K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .2
55.43 _____

Comments (Why is it an upper level question):

Must determine what NIs are available based on time after trip and RPS channels de-energized.

Question: 29

The following plant conditions exist:

- The plant is at 50% power.
- RPS Channel 2 was de-energized for maintenance.
- A loss of Y1 led to a loss of second RPS channel and a reactor trip.

Which one of the following Nuclear Instruments (NI) can be used to monitor reactor power 15 minutes after the reactor trip?

- a. NI 1, SOURCE RANGE LOG COUNT RATE
- b. NR NI 3-1, INTERMEDIATE RANGE Recorder
- c. Annunciator 5-5-E, SUR ROD WITHDRAW INHIBIT
- d. NI 5875A, SOURCE RANGE Gamma-Metrics Channel 2

Answer:

- d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	3	3
	K/A#	000-056-AK1.03	
	Importance Rating	3.1	3.4

Proposed Question: 30

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

Saturation temperature for 1670 psig is 612°F.

b. Since SCM is less than 20°F, incore temperature is used to determine SCM.

c./d. Tave or Tcold are not used to determine SCM.

Technical Reference(s):
DB-OP-02000

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

Steam Tables

Learning Objective (As available): OPS-GOP-304-01K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .14
55.43 _____

Comments (Why is it an upper level question):

Must determine which temperature instrument to use and calculate subcooling margin.

Question: 30

The following plant conditions exist:

- The plant was at 100% power.
- A loss of off-site power occurred 10 minutes ago.
 - RCS pressure is 1670 psig.
 - Average incore temperature is 600°F.
 - RCS hotleg temperature is 594°F.
 - RCS average temperature is 572°F.
 - RCS coldleg temperature is 550°F.

Which one of the following is the correct subcooling margin for the above plant conditions?

- a. 12°F.
- b. 18°F.
- c. 40°F.
- d. 62°F.

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	3	3
	K/A#	BW/E13-GEN 2.4.39	
	Importance Rating	3.3	3.1

Proposed Question: 31

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. Sandusky County is not on the 4-way ringdown.
- b. Carroll Township and Erie Country are not on the 4-way ringdown.
- d. Sandusky County, Carroll Township, and Erie County are not on the 4-way ringdown.

Technical Reference(s):
RA-EP-02010

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-603-05K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .10
55.43 _____

Comments (Why is it an upper level question):

Question: 31

Due to an RCS leak, the Shift Manager directs the spare Reactor Operator to make Emergency Plan notifications using the 4-Way Ringdown Phone.

Which one of the following combinations identifies who will be notified?

1. Sandusky County Sheriff
 2. Ohio Highway Patrol
 3. Lucas County Sheriff
 4. Carroll Township Police
 5. Ottawa County Sheriff
 6. Erie County Sheriff
-
- a. 1, 3, and 5
 - b. 2, 4, and 6
 - c. 2, 3, and 5
 - d. 1, 4, and 6

Answer:

c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	3	3
	K/A#	BW/A07-AA1.2	
	Importance Rating	2.8	3.0
Proposed Question: 32 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): b. EDG rooms, AFP rooms, and BWST tunnel do not contain SSD equipment. c. EDG rooms and BWST tunnel do not contain SSD equipment. d. AFP rooms do not contain SSD equipment.			
Technical Reference(s): RA-EP-02880		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-605-16K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> .7 </u> 55.43 _____		
Comments (Why is it an upper level question):			

Question: 32

Which of the following are the three areas that affect Safe Shutdown Systems that are covered by RA-EP-02880, Internal Flooding?

1. Service Water Pump Room
 2. Emergency Diesel Generator Rooms
 3. Component Cooling Water Pumps Room
 4. Auxiliary Feedwater Pump Rooms
 5. Emergency Core Cooling Systems Room
 6. Borated Water Storage Tank Pipe Tunnel
-
- a. 1, 3, and 5
 - b. 2, 4, and 6
 - c. 1, 2, and 6
 - d. 3, 4, and 5

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	001-K5.56	
	Importance Rating	4.2	4.6
Proposed Question: 33 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. None of these are used to monitor DNBR. b. Quadrant power tilt is not used to monitor DNBR. c. Axial power imbalance and reg. rod position are not used to monitor DNBR.			
Technical Reference(s): Tech. Spec. 3.2.5		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-432-02A			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> .5 </u> 55.43 <u> .2 </u>		
Comments (Why is it an upper level question):			

Question: 33

Which of the following are monitored to ensure the minimum DNBR is maintained in accordance with Tech. Spec. 3.2.5?

1. Axial Power Imbalance
 2. Quadrant Power Tilt
 3. Regulating Rod Groups Insertion Limits
 4. RCS Hot Leg Temperature
 5. RCS Pressure
 6. RCS Flow
-
- a. 1, 2, and 3
 - b. 2, 4, and 5
 - c. 1, 3, and 6
 - d. 4, 5, and 6

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	001-A4.15	
	Importance Rating	3.1	3.1

Proposed Question: 34

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a./c. Rods will insert when Tave is reduced.
- b. Tave reduction adds positive reactivity.

Technical Reference(s):
DB-OP-06902

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OLC-BAT-229-01K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .1
55.43 .6

Comments (Why is it an upper level question):

Must determine the reactivity added and how Group 7 is affected.

Question: 34

The following plant conditions exist:

- The plant is at 100% at the end of core life.
- Tave is being reduced from 582°F to 576°F in accordance with DB-OP-06902, Power Operations.

In response to the Tave reduction, Group 7 rods will automatically:

- a. withdraw due to the addition of positive reactivity.
- b. insert due to the addition of negative reactivity.
- c. withdraw due to the addition of negative reactivity.
- d. insert due to the addition of positive reactivity.

Answer:

- d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	003-K4.11	
	Importance Rating	3.0	3.0

Proposed Question: 35

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- b. SR temperature high gives alarm only.
- c. SR flow low gives alarm only
- d. Seal cooler CCW flow low is a starting interlock.

Technical Reference(s):

DB-OP-02515

DB-OP-02523

Reference Attached: _____

(Attach if not

previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-304-07K

Question Source:

Bank # _____

Modified Bank # _____

New X

(Note changes or attach parent)

Question History

Previous NRC Exam _____

Previous Quiz / Test _____

Question Cognitive Level:

Memory or Fundamental Knowledge X

Comprehension or Analysis _____

10 CFR Part 55 Content:

55.41 .7

55.43 _____

Comments (Why is it an upper level question):

Question: 35

CC 4100, Seal Cooling CCW Return from RCP 1-1, will automatically close if RCP 1-1:

- a. seal cooler CCW pressure is HIGH.
- b. seal return temperature is HIGH.
- c. seal return flow is LOW.
- d. seal cooler CCW flow is LOW.

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	004-K6.07	
	Importance Rating	2.7	2.8

Proposed Question: 36

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. MU 32 would close due to pressurizer level increasing.
- b. MU 19 would not be affected.
- d. RCS pressure would not reach the PORV setpoint.

Technical Reference(s):
DB-OP-06006

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-106-03K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .3
55.43 _____

Comments (Why is it an upper level question):

Must determine how a loss of letdown affects the RCS.

Question: 36

The following plant conditions exist:

- The plant is at 100% power.
- All systems in a normal lineup.
- A leak in Letdown Cooler 1 has caused MU 2B, Letdown Isolation Valve, to automatically close.

Which one of the following automatic actions would occur as a result of MU 2B closing?

- a. MU 32, Pressurizer Level Control, would continuously cycle open and closed.
- b. MU 19, RCP Seal Injection Flow Control, would continuously cycle open and closed.
- c. RC 2, Pressurizer Spray Valve, would continuously cycle open and closed.
- d. RC 2A, PORV, would continuously cycle open and closed.

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	015-K6.02	
	Importance Rating	2.6	2.9

Proposed Question: 37

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a./b. NI-3 is reading correctly.
- d. If voltage was high, NI-4 would indicate low.

Technical Reference(s):
DB-OP-03006

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-502-03K

Question Source:	Bank #	<u> X </u>	
OLC-6762	Modified Bank #	<u> </u>	(Note changes or attach parent)
	New	<u> </u>	

Question History	Previous NRC Exam	<u> X </u>
1996 NRC Exam	Previous Quiz / Test	<u> </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> .2 </u>
	55.43	<u> .6 </u>

Comments (Why is it an upper level question):

Must determine which NI is abnormal and then determine why.

Question: 37

The reactor has tripped, and all control rods have inserted. Nine minutes after the trip, the following plant conditions exist:

- Intermediate Range, NI-3, indicates a power level decrease of one decade every three minutes.
- Intermediate Range, NI-4, indicates a power level decrease of one decade every nine minutes.
- NI-3 currently reads 8×10^{-10} amps decreasing.
- NI-4 currently reads 6×10^{-8} amps decreasing.

Which one of the following explains the reason for the response of the intermediate range nuclear instruments?

- a. Compensating voltage on NI-3 is set too high.
- b. Compensating voltage on NI-3 is set too low.
- c. Compensating voltage on NI-4 is set too low.
- d. Compensating voltage on NI-4 is set too high.

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	022-K4.04	
	Importance Rating	2.8	3.1

Proposed Question: 38

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. CACs are designed for accidental conditions.
- b. CRD vent fans will not provide enough cooling if CCW is lost.
- c. CTMT recirc fans are for mixing air in CTMT.

Technical Reference(s):
DB-OP-06402

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-102-05K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .3
55.43 .5

Comments (Why is it an upper level question):

Question: 38

A control rod drive ventilation fan should be started whenever:

- a. only one containment air cooler is available for cooling containment.
- b. component cooling water is lost to the control rod drive motors.
- c. the containment recirc fans are NOT running.
- d. the Control Rod Drive System is capable of rod withdrawal.

Answer:

- d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	003-A2.05	
	Importance Rating	2.5	2.8

Proposed Question: 39

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. Boron concentration is not high enough to affect RCP seals.
- b. BWST water is maintained high enough to not affect RCP seals.
- c. Letdown flow will not affect seal return flows.

Technical Reference(s):
DB-OP-02000

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-105-05K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .3
55.43 _____

Comments (Why is it an upper level question):

Must determine why RCP seal flows are abnormal.

Question: 39

The following plant conditions exist:

- The reactor tripped.
- Two control rods failed to insert.
- Boration from the BWST is in progress in order to establish adequate shutdown margin.
- All other post-trip responses are normal.

Twenty minutes after boration has been established, RCP seal return flow annunciators begin to alarm because:

- a. high boron concentration is affecting the RCP seal face clearances.
- b. high makeup tank level and pressure are affecting seal return flows.
- c. low seal injection water temperature from the BWST is affecting the RCP seal face clearances.
- d. high letdown flow rates are affecting seal return flows.

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	056-A2.04	
	Importance Rating	2.6	2.8
Proposed Question: 40 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): b. Rapid shutdown required if flow is greater than available pump capacity. c. Runback starts at four feet in the D/As. d. Only need to throttle CD2796 if pressure is low.			
Technical Reference(s): DB-OP-06221		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SYS-205-15K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> .4 </u> 55.43 <u> .5 </u>		
Comments (Why is it an upper level question):			

Question: 40

The following plant conditions exist:

- The plant is at 75% power.
- All systems are in a normal lineup.

Which one of the following is the correct action if Condensate Pump 1 would trip?

- a. Start the standby condensate pump to maintain flow less than 3.5 MPPH per pump.
- b. Start a rapid plant shutdown to maintain deaerator levels at 8 feet.
- c. Monitor the automatic ICS runback to 55% power.
- d. Throttle CD 2796, Condensate Pump Discharge Pressure Control Valve, to maintain discharge pressure greater than 190 psig.

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	059-K4.13	
	Importance Rating	2.9	2.9

Proposed Question: 41

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. 40" is setpoint if SCM is adequate.
- b. 49" is setpoint if using AFW.
- d. 240" is max. level for SGTR.

Technical Reference(s):
DB-OP-02000

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-301-04K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .10
55.43 .5

Comments (Why is it an upper level question):

Must recognize SCM is inadequate and determine SG level required by SR 4.

Question: 41

The following plant conditions exist:

- Makeup/high pressure injection cooling is in progress due to a loss of all feedwater.
- Subcooling margin is 5°F.

The motor driven feed pump is started in the main feedwater mode.

Steam generator levels should be maintained at:

- a. 40 inches.
- b. 49 inches.
- c. 124 inches.
- d. 240 inches.

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	059-A1.07	
	Importance Rating	2.5	2.6
Proposed Question: 42 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. 3900 RPM is the LSS setpoint. c. 4600 RPM is the RFR setpoint. d. 5300 RPM is the HSS setpoint.			
Technical Reference(s): DB-OP-02532		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SYS-524-04K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> .4 </u> 55.43 _____		
Comments (Why is it an upper level question):			

Question: 42

The following plant conditions exist:

- The plant is at 100% power.
- All systems are in a normal lineup.

A loss of ICS DC power occurs. Prior to any operator action, the speed of BOTH main feed pumps will go to:

- a. 3900 RPM.
- b. 4400 RPM.
- c. 4600 RPM.
- d. 5300 RPM.

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	061-K2.02	
	Importance Rating	3.7	3.7

Proposed Question: 43

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- b. F13 does not power MDFP auxiliaries.
- c./d. C2 does not power the MDFP.

Technical Reference(s):
DB-OP-02000

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-407-24K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .4
55.43 _____

Comments (Why is it an upper level question):

Question: 43

The following plant conditions exist:

- A loss of offsite power has occurred.
- Both AFPTs tripped.

The motor driven feed pump can be started if 4160 VAC Bus _____ and 480 VAC Motor Control Center _____ are re-energized.

- a. D2; F71
- b. D2; F13
- c. C2; F71
- d. C2; F13

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	068-A2.04	
	Importance Rating	3.3	3.3
Proposed Question: 44 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. Stopping the dilution pump does not terminate the release. c./d. The release should be terminated.			
Technical Reference(s): DB-OP-03011		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SYS-111-10K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> .13 </u> 55.43 <u> .4 </u>		
Comments (Why is it an upper level question):			

Question: 44

The following plant conditions exist:

- A miscellaneous waste monitor tank release is in progress.
- RE 1878B, Miscellaneous Radwaste Monitor RE, is inoperable.
- Annunciator 7-1-D, MISC WST SYS OUT RAD HI, alarms due to a WARN alarm on RE 1878A.

The release:

- a. should be terminated by stopping the dilution pump from the Control Room.
- b. should be terminated by closing WM 1876, Misc Liquid Wst Disch Iso Vlv, from the Radwaste Control Panel.
- c. can continue if four-hour grab samples are taken by Chemistry.
- d. can continue with both RE 1878A and RE 1878B inoperable with Radiation Protection Manager approval.

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	071-K1.05	
	Importance Rating	2.7	2.8

Proposed Question: 45

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a./c. Radiation problem is not in containment.
- b. 4-way ring down circuit is for notifications.

Technical Reference(s):
HS-EP-02240

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-606-01K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .11
55.43 .4

Comments (Why is it an upper level question):

Question: 45

A General Emergency has been declared due to a waste gas decay tank rupture.

Which one of the following would be used to obtain data for an Off-Site Dose Assessment Nomogram?

- a. RE 4597AA, Containment Atmospheric Radiation Monitor, and the 4-way ring down circuit.
- b. RE 4598AA, Station Vent Radiation Monitor, and the 4-way ring down circuit.
- c. RE 4597AA, Containment Atmosphere Radiation Monitor, and the Meteorological Tower.
- d. RE 4598AA, Station Vent Radiation Monitor, and the Meteorological Tower.

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	072-K1.04	
	Importance Rating	3.3	3.5
Proposed Question: 46 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): b./d. CREVS and station EVS do not auto start. c. FH ventilation is tripped by RE 8446 and RE 8447.			
Technical Reference(s): DB-OP-02009		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SYS-606-06K			
Question Source: OLC-5623	Bank # Modified Bank # New	<u> X </u> _____ _____	(Note changes or attach parent)
Question History 2001 Quiz	Previous NRC Exam Previous Quiz / Test	_____ <u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge Comprehension or Analysis	<u> X </u> _____	
10 CFR Part 55 Content:	55.41 55.43	<u> .7 </u> <u> .4 </u>	
Comments (Why is it an upper level question):			

Question: 46

Which one of the following will automatically occur upon receipt of Annunciator 9-3-A, UNIT VENT RAD HI?

- a. The Control Room Normal Ventilation System will shut down.
- b. The Control Room Emergency Ventilation System will start up.
- c. The Fuel Handling Ventilation System will shut down.
- d. The Station Emergency Ventilation System will start up.

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	013-A4.02	
	Importance Rating	4.3	4.4
Proposed Question: 47 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): b. HPI cannot exceed PT limits when RCS temperature is >352°F. c. Interlock is not in effect when DH 11 and 12 are closed. d. Tech. Spec. limit is not a concern since pressurize level is low during heatup.			
Technical Reference(s): DB-OP-06900		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SYS-506-02K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> .5 </u> 55.43 _____		
Comments (Why is it an upper level question):			

Question: 47

During a plant heatup, SFAS low pressure trips are reset at an RCS pressure of 1650 psig to:

- a. prevent an SFAS channel from reaching the automatic block reset prior to resetting the low pressure trip.
- b. ensure an inadvertent HPI actuation does not cause RCS pressure to exceed the reactor vessel pressure-temperature limit.
- c. prevent the SFAS pressurizer heater interlock bistable from de-energizing pressurizer heaters.
- d. ensure an inadvertent HPI actuation does not cause pressurizer level to exceed the maximum Tech. Spec. limit.

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	056-K1.03	
	Importance Rating	2.6	2.6
Proposed Question: 48 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a./b./d. MFPT receives sealing steam from gland steam.			
Technical Reference(s): OS-010 OS-012A		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SYS-205-13K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> .4 </u> 55.43 _____		
Comments (Why is it an upper level question):			

Question: 48

Which of the following components receive seal water from the Condensate System?

1. Main feed pump shaft seal
 2. Main feed pump turbine shaft seal
 3. Main feed pump booster pump shaft seal
 4. Main feed pump turbine drain pump shaft seal
-
- a. 1, 2, and 3
 - b. 2, 3, and 4
 - c. 1, 3, and 4
 - d. 1, 2, and 4

Answer:

c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	017-K3.01	
	Importance Rating	3.5	3.7
Proposed Question: 49 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): b. Do not use That if RCS flow unavailable. c./d. Do not throttle MU/HPI until SCM regained.			
Technical Reference(s): DB-OP-02000		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-305-02K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> X </u>		
10 CFR Part 55 Content:	55.41 <u> .10 </u> 55.43 _____		
Comments (Why is it an upper level question): Must recognize the need to use average incore temperature to establish primary to secondary heat transfer.			

Question: 49

The following plant conditions exist:

- Makeup/high pressure injection cooling is in progress due to a loss of all feedwater.
- The Safety Parameter Display System has failed.
- Auxiliary feedwater has been restored to SG2.

To induce primary to secondary heat transfer, lower _____.

- a. SG2 saturation temperature 50°F lower than average incore temperature
- b. SG2 saturation temperature 50°F lower than Loop 2 hotleg temperature
- c. makeup/HPI flow to raise average incore temperature 50°F higher than SG2 saturation temperature
- d. makeup/HPI flow to raise Loop 2 hotleg temperature 50°F higher than SG2 saturation temperature

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	033-K1.02	
	Importance Rating	2.5	2.7

Proposed Question: 50

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

a./c. SFP pumps are not capable of being powered from EDG and/or SBODG.

d. DHP 2 does not have power.

Technical Reference(s):
DB-OP-02527

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-127-09K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .4
55.43 .7

Comments (Why is it an upper level question):

Must determine what pumps are available to provide cooling to the SFP.

Question: 50

The following plant conditions exist:

- The reactor vessel has been defueled.
- A loss of offsite power occurs.
- EDG 1 starts and energizes C1 Bus.
- D1 Bus locks out.

Which one of the following methods can be used for cooling the Spent Fuel Pool (SFP)?

- a. Energize C2 Bus from C1 Bus and restart SFP Pump 1.
- b. Align Decay Heat Pump 1 to the SFP and start Decay Heat Pump 1.
- c. Energize D2 Bus from the SBODG and restart SFP Pump 2.
- d. Align Decay Heat Pump 2 to the SFP and start Decay Heat Pump 2.

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	002-A4.03	
	Importance Rating	4.3	4.4

Proposed Question: 51
See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. Increasing C/D rate will make head bubble bigger.
- c. Water needed to replace the head bubble.
- d. Increasing SG steaming will increase C/D rate.

Technical Reference(s):
DB-OP-06903

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:
None

Learning Objective (As available): OPS-GOP-206-06K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .14
55.43 _____

Comments (Why is it an upper level question):

Must analyze conditions, determine the problem and the solution to a head bubble.

Question: 51

The following plant conditions exist:

- The plant tripped due to a loss of offsite power.
- A plant cooldown is being performed to comply with Tech. Specs.
- RCS hotleg temperature is 550°F.
- RCS coldleg temperature is 518°F.
- RCS pressure is 1400 psig.
- Pressurizer level is increasing.
- Computer Point T012, Reactor Vessel Head Vent Temperature, indicates 586°F.

Which one of the following actions should be taken?

- a. Increase cooldown rate to lower reactor vessel head vent temperature.
- b. Increase RCS pressure to restore subcooling margin.
- c. Increase letdown flow to lower pressurizer level.
- d. Increase SG steaming rate to enhance natural circ flow.

Answer:

b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	006-K5.01	
	Importance Rating	2.8	3.3

Proposed Question: 52

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a./c. Level transmitters are not vented.
- d. Reference leg density decreases.

Technical Reference(s):
DB-OP-02000

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-301-04K

Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
ORQ-1607	Modified Bank #	<u> </u>	
	New	<u> </u>	

Question History	Previous NRC Exam	<u> </u>
	Previous Quiz / Test	<u> </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> .14 </u>
	55.43	<u> </u>

Comments (Why is it an upper level question):

Must determine the effect temperature has on density and the effect on level indication.

Question: 52

A small break LOCA has occurred resulting in a plant trip. The following plant conditions exist:

- Incore thermocouples read 580°F and steady.
- RCS pressure is 1400 psig and steady.
- All equipment has operated as designed.
- Average CAC suction temperature is 173°F.

Which one of the following explains Annunciator 3-3-F, CF TK 1 LVL HI, being lit?

- a. Increased containment PRESSURE has resulted in increased differential pressure across the CFT 1 level transmitter.
- b. Increased containment TEMPERATURE has resulted in decreased CFT 1 level indicator reference leg density.
- c. Increased containment PRESSURE has resulted in decreased differential pressure across the CFT 1 level transmitter.
- d. Increased containment TEMPERATURE has resulted in increased CFT 1 level indicator reference leg density.

Answer:

b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	011-A4.04	
	Importance Rating	3.2	2.9

Proposed Question: 53

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

a./b./c. Immediate action for pressurizer instrument failure is to place MU 32 in HAND and control makeup flow.

Technical Reference(s):
DB-OP-02514

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-104-18K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .10
55.43 .5

Comments (Why is it an upper level question):

Must analyze plant conditions and determine immediate actions.

Question: 53

The following plant conditions exist:

- The plant is at 100% power.
- MU 32, MAKE FLOW CONTROLLER, is opening.
- Temperature compensated pressurizer level has taken a STEP DROP to 150 inches.
- BOTH uncompensated pressurizer level instruments indicate 145 inches.
- The selected pressurizer temperature indicates 350°F.

Which one of the following actions should be taken IMMEDIATELY?

- a. Select the alternate pressurizer temperature instrument.
- b. Select an alternate temperature compensated pressurizer level instrument.
- c. Close MU 2B, Letdown Isolation Valve.
- d. Place MU 32 in HAND and obtain desired makeup flow.

Answer:

- d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	012-A1.01	
	Importance Rating	2.9	3.4

Proposed Question: 54

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- b. The flux/delta flux/flow trip is bypassed.
- c. High flux trip is not bypassed.
- d. High flux trip is reduced to 4.5% when in SDBP.

Technical Reference(s):
DB-OP-06403

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-502-24K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .6
55.43 _____

Comments (Why is it an upper level question):

Must determine the effect of the NI failure on current plant status.

Question: 54

The following plant conditions exist:

- A plant shutdown and cooldown is in progress.
- RCS pressure is 1620 psig.
- RCS temperature is 460°F.
- Group 1 Control Rods are withdrawn.

The lower detector for power range NI 6 fails high.

The NI failure will _____.

- a. cause RPS Channel 1 to trip on high flux
- b. cause RPS Channel 1 to trip on flux/delta flux/flow
- c. have no effect since RPS Channel 1 is in shutdown bypass
- d. have no effect since a single detector failure does NOT exceed the high flux trip setpoint of 104.75%

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	016-A2.04	
	Importance Rating	2.5	2.6

Proposed Question: 55

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

a./b./d. MU 32 loses power to the E/P booster which causes sluggish control.

Technical Reference(s):
DB-OP-02532

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-507-01K

Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
ORQ-1648	Modified Bank #	<u> </u>	
	New	<u> </u>	

Question History	Previous NRC Exam	<u> </u>
	Previous Quiz / Test	<u> </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>
	Comprehension or Analysis	<u> </u>

10 CFR Part 55 Content:	55.41	<u> .7 </u>
	55.43	<u> </u>

Comments (Why is it an upper level question):

Question: 55

The following plant conditions exist:

- The plant is at 100% power.
- The fuse supplying NNI AC power to the pressurizer level HAND/AUTO station, LIC RC14, blows.

Which one of the following describes the affect?

- a. MU 32 will fail open.
- b. MU 32 may NOT respond to control from the HAND/AUTO station.
- c. MU 32 may respond sluggishly.
- d. MU 32 will fail to mid-position.

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	029-A1.03	
	Importance Rating	3.0	3.3

Proposed Question: 56

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

b./c./d. With only the purge fan running, pressure will drop in containment causing refueling canal level to rise.

Technical Reference(s):
DB-OP-06503

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-109-08K

Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
OLC-4753	Modified Bank #	<u> </u>	
	New	<u> </u>	

Question History	Previous NRC Exam	<u> X </u>
1999 NRC Exam	Previous Quiz / Test	<u> </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> .9 </u>
	55.43	<u> .7 </u>

Comments (Why is it an upper level question):

Must determine the effect and CTMT pressure and the effect on RF canal and SFP levels.

Question: 56

The following plant conditions exist:

- Plant is in Mode 6.
- Fuel handling operations are in progress.
- Containment Equipment Hatch is installed.
- The inner door of the personnel hatch is closed.
- A start of the Containment Purge System on containment is attempted.
- The CTMT purge exhaust fan starts. The CTMT purge supply fan fails to start.
- The CTMT purge exhaust fan fails to automatically trip.

The refueling canal level will _____ and the spent fuel pool level will _____.

- a. increase; decrease
- b. decrease; increase
- c. increase; not change
- d. not change; increase

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	039-K1.05	
	Importance Rating	2.5	2.6
Proposed Question: 57 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. FW flow stays constant since reactor power and steam flow remain the same. b./c. TBVs control at 870 psig since the reactor does not trip.			
Technical Reference(s): DB-OP-02500		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-101-05K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> X </u>		
10 CFR Part 55 Content:	55.41 <u> .4 </u> 55.43 _____		
Comments (Why is it an upper level question): Must determine how a turbine trip affects reactor power and the affect on TBVs and feedwater.			

Question: 57

The following plant conditions exist:

- The plant is at 22% power.
- A plant startup is in progress.

The main turbine trips on low lube oil pressure.

Which of the following is the expected response for feedwater control and steam pressure control?

- a. Feedwater flow decreases.
Turbine bypass valves control pressure at 870 psig.
- b. Feedwater flow remains constant.
Turbine bypass valves control pressure at 995 psig.
- c. Feedwater flow decreases.
Turbine bypass valves control pressure at 995 psig.
- d. Feedwater flow remains constant.
Turbine bypass valves control pressure at 870 psig.

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	055-K3.01	
	Importance Rating	2.5	2.7

Proposed Question: 58

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. Flash tank normally has positive pressure.
- b. High circ. water temperature would not increase off-gas flow.
- d. Steam flow is higher because of the high condenser pressure.

Technical Reference(s):
DB-OP-02518

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-118-07K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .4
55.43 _____

Comments (Why is it an upper level question):

Must analyze plant conditions to determine the reason for high condenser pressure.

Question: 58

The following plant conditions exist:

- LP condenser pressure has increased from 2.2" to 3.7" HgA.
- HP condenser pressure has increased from 4.3" to 5.3" HgA.
- Reactor power is at 102%.
- Off-gas flow (FI-1002) is off scale high.

Based on the above information, the cause of the increasing condenser pressure is _____.

- a. positive pressure in the flash tank
- b. high circulating water temperature
- c. PCV 1061, Vacuum Control Valve, open
- d. high total steam flow

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	064-K3.03	
	Importance Rating	3.6	3.9
Proposed Question: 59 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. Load does not increase when the governor fails. b. Cannot change power factor if the EDG is not paralleled. d. Isochronous-droop switch does not effect the hydraulic governor.			
Technical Reference(s): DB-OP-06316		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SYS-406-09K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> X </u>		
10 CFR Part 55 Content:	55.41 <u> .7 </u> 55.43 _____		
Comments (Why is it an upper level question): Must determine how the governor failure affects the EDG and determine the corrective action.			

Question: 59

The following plant conditions exist:

- The plant is at 100% power.
- An undervoltage on 4160 VAC Bus D1 occurs.
- EDG 2 starts and energizes D1 bus.

Five minutes later, the electronic governor for EDG 2 loses power.

Which one of the following actions is required to return the operating parameters for EDG 2 to normal?

- a. Stop non-essential loads to return EDG 2 load to less than 2600 KW.
- b. Raise the generator voltage to return EDG 2 power factor to .8.
- c. Lower engine speed to return EDG 2 to 60 Hertz.
- d. Place the governor in the isochronous mode with the isochronous-droop switch.

Answer:

c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	073-K5.02	
	Importance Rating	2.5	3.1

Proposed Question: 60

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. EVS is aligned to the MPRs if an FH accident occurs in CTMT.
- c. FH vent. is required to be stopped.
- d. CREVS is started on an FH accident in CTMT.

Technical Reference(s):
DB-OP-02530

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-130-03K

Question Source:	Bank #	_____	(Note changes or attach parent)
	Modified Bank #	_____	
	New	<u> X </u>	

Question History	Previous NRC Exam	_____
	Previous Quiz / Test	_____

Question Cognitive Level:	Memory or Fundamental Knowledge	_____
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> .10 </u>
	55.43	<u> .7 </u>

Comments (Why is it an upper level question):

Must determine correct actions based on plant and equipment conditions.

Question: 60

The following plant conditions exist:

- The plant is in Mode 6.
- The core is being off-loaded to the Spent Fuel Pool (SFP).
- Essential 480 VAC Bus F1 is out of service.
- Fuel handling personnel report a fuel assembly has been damaged in the SFP.
- A HIGH alarm is received on RE 8446 and RE 8447, Fuel Handling Exhaust System REs.

Which one of the following actions should be taken?

- a. Realign EVS Train 1 to the mechanical penetration rooms.
- b. Evacuate all of the Radiologically Restricted Area (RRA).
- c. Verify the Fuel Handling Ventilation System is running.
- d. Start Control Room EVS Train 1.

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	075-K2.03	
	Importance Rating	2.6	2.7
Proposed Question: 61			
See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect):			
a./b. BUSWP is powered from C2 bus.			
d. EDG 2 is stopped due to high CCW temperature.			
Technical Reference(s):		Reference Attached: _____	
DB-OP-02521		(Attach if not	
DB-OP-02511		previously provided)	
Proposed references to be provided to applicants during examination:			
None			
Learning Objective (As available): OPS-GOP-111-03K			
Question Source:	Bank #	_____	(Note changes or attach parent)
	Modified Bank #	_____	
	New	<u> X </u>	
Question History	Previous NRC Exam	_____	
	Previous Quiz / Test	_____	
Question Cognitive Level:	Memory or Fundamental Knowledge	_____	
	Comprehension or Analysis	<u> X </u>	
10 CFR Part 55 Content:	55.41	<u> .10 </u>	
	55.43	<u> .5 </u>	
Comments (Why is it an upper level question):			
Must analyze electrical busses available and determine how to power the BUSWP.			

Question: 61

The following plant conditions exist:

- The plant is at 100% power.
- Service Water Pump (SWP) 3 is out of service.
- A loss of off-site power occurs.
- SWP 2 fails to start.
- CCW Loop 2 temperature has risen to 130°F.
- DB-OP-02000 actions have been performed.

Which one of the following actions should be performed to start the Backup Service Water Pump (BUSWP) in place of SWP 2?

- a. Energize D2 bus from the SBODG, and start the BUSWP.
- b. Energize D2 bus from C1 bus, and start the BUSWP.
- c. Energize C2 bus from C1 bus, and start the BUSWP.
- d. Energize C2 bus from EDG 2, and start the BUSWP.

Answer:

c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	079-A2.01	
	Importance Rating	2.9	3.2

Proposed Question: 62

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. SA 10920 does not control IA pressure.
- c. Air dryers would not be isolated.
- d. AVV air would not be isolated.

Technical Reference(s):
OS-19B

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-602-12K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .4
55.43 _____

Comments (Why is it an upper level question):

Must analyze what SA 6445 isolates.

Question: 62

The following plant conditions exist:

- The reactor has been tripped due to a loss of TPCW.
- The Emergency Instrument Air Compressor (EIAC) is running.
- Both Station Air Compressors (SAC) are locked out.

Which one of the following describes the effect that SA 6445, IA/SA Crosstie, inadvertently closing would have?

- a. SA 10920, Discharge Pressure Control Valve, would be isolated and unable to control IA pressure.
- b. Atomizing air to the auxiliary boiler would be isolated.
- c. The air dryers would be isolated, and moisture would accumulate in the IA System.
- d. Control air to the atmospheric vent valves would be isolated.

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	086-K6.04	
	Importance Rating	2.6	2.9
Proposed Question: 63 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): b. Sprinkler heads are fused and actuate by heat. c./d. The ten-minute time delay is on the Aux. Building water curtains.			
Technical Reference(s): OS-47B		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SYS-601-03K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> X </u>		
10 CFR Part 55 Content:	55.41 <u> .7 </u> 55.43 _____		
Comments (Why is it an upper level question): Must determine how the detector failure affects the sprinkler system and determine if the sprinkler heads will actuate.			

Question: 63

A local fire detector in Room 318, EDG 1 Room, fails and sends an actuation signal to the Fire Suppression System.

Which one of the following describes the response of the Room 318 Fire Suppression System?

- a. The sprinkler pipe fills with water.
The sprinkler heads do not actuate.
- b. The sprinkler pipe fills with water.
The sprinkler heads actuate immediately.
- c. A ten-minute time delay starts to fill the sprinkler pipe.
The sprinkler heads actuate immediately.
- d. A ten-minute time delay starts to fill the sprinkler pipe.
The sprinkler heads do not actuate.

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	3	3
	K/A#	078-K4.02	
	Importance Rating	3.2	3.5

Proposed Question: 64

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

SA 2008 fails closed at 90 psig.

SA 6445 fails closed at 95 psig.

IA 2043 full closed at 70 psig.

IA 2044 full closed at 60 psig.

Technical Reference(s):
OS-19

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-602-07K

Question Source:	Bank #	<u> X </u>	
OLC-3528	Modified Bank #	<u> </u>	(Note changes or attach parent)
	New	<u> </u>	

Question History	Previous NRC Exam	<u> X </u>
1997 Exam	Previous Quiz / Test	<u> </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>
	Comprehension or Analysis	<u> </u>

10 CFR Part 55 Content:	55.41	<u> .7 </u>
	55.43	<u> </u>

Comments (Why is it an upper level question):

Question: 64

The following plant conditions exist:

- The plant is at 100% power.
- Instrument air pressure is 99 psig and decreasing.

Which of the following describes the correct sequence of events if instrument air pressure continues to decrease?

1. IA 2043, TURBINE BLDG BACK PRESSURE CONTROL VALVE, goes full closed.
 2. IA 2044, AUX BLDG INSTRUMENT AIR CONTROL VALVE, goes full closed.
 3. SA 2008, STATION AIR HEADER BACK PRESSURE REGULATOR, goes full closed.
 4. SA 6445, IA/SA CROSSTIE SOLENOID, goes full closed.
-
- a. 2,1,4,3
 - b. 2,4,3,1
 - c. 4,2,3,1
 - d. 4,3,1,2

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	3	3
	K/A#	007-A2.05	
	Importance Rating	3.2	3.6

Proposed Question: 65

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- b. QT pumps to RCDT.
- c. QT pumps to RCDT.
- d. QT auto recircs on high temperature.

Technical Reference(s):
OS-01A

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-104-05K

Question Source:	Bank #	<u> X </u>	
ONL-2911	Modified Bank #	<u> </u>	(Note changes or attach parent)
	New	<u> </u>	

Question History	Previous NRC Exam	<u> </u>
	Previous Quiz / Test	<u> </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> .10 </u>
	55.43	<u> </u>

Comments (Why is it an upper level question):

Must determine what is causing QT pump to start and where it drains.

Question: 65

The following plant conditions exist:

- PZR PORV outlet temperature 255°F
- PZR quench tank level 10.0 ft.
- PZR quench tank temperature 215°F

Assume PZR quench tank level and temperature control are in AUTOMATIC. Which one of the following is correct?

- a. Quench tank recirculating pump started on HIGH TEMPERATURE caused by the leaking PORV, and level is automatically being controlled by draining to the RC DRAIN TANK.
- b. Quench tank recirculating pump started on HIGH LEVEL caused by the leaking PORV, and level is automatically being controlled by draining to the CONTAINMENT SUMP.
- c. Quench tank recirculation pump started to reduce HIGH TEMPERATURE caused by the leaking PORV, and level is automatically being controlled by draining to the CONTAINMENT SUMP.
- d. Quench tank recirculating pump started to reduce HIGH LEVEL caused by the leaking PORV, and level is automatically being controlled by draining to the RC DRAIN TANK.

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	3	3
	K/A#	041-A4.08	
	Importance Rating	3.0	3.1
Proposed Question: 66 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): b. ICS does not lose power. c./d. Instrument air compressor is powered from D2 bus.			
Technical Reference(s): DB-OP-06201		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SYS-512-06K			
Question Source: ORQ-0105	Bank # Modified Bank # New	<u> X </u> _____ _____	(Note changes or attach parent)
Question History 2000 Requal Exam	Previous NRC Exam Previous Quiz / Test	_____ <u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge Comprehension or Analysis	_____ <u> X </u>	
10 CFR Part 55 Content:	55.41 55.43	<u> .4 </u> _____	
Comments (Why is it an upper level question): Must analyze plant conditions to determine TBVs cannot be operated.			

Question: 66

The following plant conditions exist:

- The plant was at 100% power.
- A complete loss of off-site power occurred approximately ten minutes ago.
- EDGs have started and loaded as required.
- The Station Blackout Diesel Generator has been started and is supplying Bus D2.

Which of the following conditions will prevent the turbine bypass valves from controlling SG pressures?

1. The MSIVs (MS 100 and MS 101) have closed.
 2. All four circ. water pumps have tripped.
 3. Instrument air pressure has been lost.
 4. ICS power has been de-energized.
-
- a. 1, 2
 - b. 1, 4
 - c. 2, 3
 - d. 3, 4

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	2	2
	Group #	3	3
	K/A#	045-2.4.50	
	Importance Rating	3.3	3.3
Proposed Question: 67 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a./b./c. Turbine will not trip unless >80% @ two minutes.			
Technical Reference(s): DB-OP-02016		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SYS-215-15K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> X </u>		
10 CFR Part 55 Content:	55.41 <u> .4 </u> 55.43 _____		
Comments (Why is it an upper level question): Must analyze data to determine the status of the annunciators.			

Question: 67

The following plant conditions exist:

- The plant was at 100% power.
- Both stator cooling water pumps tripped.
- Two minutes later, the plant is at 50% power.

Which of the following annunciators will be in alarm?

1. 14-6-D, ICS IN TRACK
 2. 16-1-F, STAT-CLNT LOSS TURB TRIP
 3. 16-1-G, STAT-CLNT LOSS T-G RNBK
 4. 16-2-F, STAT-CLNT INLET FLOW LO
-
- a. 1, 2, 3
 - b. 1, 2, 4
 - c. 1, 3, 4
 - d. 2, 3, 4

Answer:

c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	3	3
	Group #		
	K/A#	GEN 2.1.19	
	Importance Rating	3.0	3.0

Proposed Question: 68

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. Must average SG steam and water temperatures.
- b. Must average SG steam and water temperatures.
- d. DAAS does not provide SG shell temperatures.

Technical Reference(s):
DB-OP-06903

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-206-05K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .4
55.43 _____

Comments (Why is it an upper level question):

Question: 68

The following plant conditions exist:

- The plant has tripped due to a major steam leak.
- SG 1 is dry.
- Safety Parameter Display System (SPDS) is not functioning.

In order to determine SG tube to shell differential temperature:

- a. SG 1 outlet temperature (TI 614) can be substituted for the average SG shell temperature.
- b. SG 1 downcomer (TI SP8B) temperature can be substituted for the average SG shell temperature.
- c. Average SG shell temperature can be provided from the Plant Process Computer (PPC).
- d. Average SG shell temperature can be provided from the Data Acquisition Analysis System (DAAS).

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	3	3
	Group #		
	K/A#	GEN 2.1.27	
	Importance Rating	2.8	2.9
Proposed Question: 69 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): b./c./d. The only high rad signal that auto starts EVS is from the FH area.			
Technical Reference(s): DB-OP-06504		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SYS-109-01K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> .11 </u> 55.43 <u> .7 </u>		
Comments (Why is it an upper level question):			

Question: 69

The station EVS automatically starts on a high radiation signal _____.

- a. in the fuel handling area
- b. in the radwaste area
- c. from the Containment Purge System radiation monitor when purging the mechanical penetration rooms
- d. from the Containment Purge System radiation monitor when purging containment.

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	3	3
	Group #		
	K/A#	GEN 2.2.33	
	Importance Rating	2.5	2.9
Proposed Question: 70 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a./c. Performed by a different ST. d. Performed under a work order.			
Technical Reference(s): DB-SC-03271		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SYS-501-02K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> .2 </u> 55.43 <u> .6 </u>		
Comments (Why is it an upper level question):			

Question: 70

After the reactor has been refueled, DB-SC-03271, Control Rod Drive (CRD) Program Verification, is performed to ensure _____.

- a. CRD breakers receive trip signals from RPS
- b. CRD power cables are correctly connected
- c. CRD sequence fault circuitry operates properly
- d. CRD motors have cooling water connected

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	3	3
	Group #		
	K/A#	GEN 2.4.09	
	Importance Rating	3.3	3.9
Proposed Question: 71 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. AFW is controlling SG level c. Pressurizer level setpoint will be below the normal post-trip setpoint. d. The bias will cause TBVs to close.			
Technical Reference(s): DB-OP-02000		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-306-06A			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> X </u>		
10 CFR Part 55 Content:	55.41 <u> .10 </u> 55.43 <u> .5 </u>		
Comments (Why is it an upper level question): Must analyze plant conditions and determine the reason for the overcooling.			

Question: 71

The following plant conditions exist:

- The plant was at 5% power following a startup from a two-week maintenance outage.
- A malfunction of a startup feedwater control valve has led to an SFRCS actuation on low SG level.
- All systems responded normally.
- Ten minutes after the reactor trip, RCS temperature and SG pressures are slowly decreasing.

Which one of the following would be the correct mitigation strategy for this event?

- a. Manually control MFW control valves and MFW pumps since RFR was NOT armed.
- b. Manually initiate AFW flow and isolation of both SGs due to secondary steam demand exceeding primary heat production.
- c. Lower pressurizer level setpoint to minimize the makeup flow into the RCS.
- d. Manually control turbine bypass valves due to the 125 psig bias added to the steam header pressure setpoint.

Answer:

b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	3	3
	Group #		
	K/A#	GEN 2.4.26	
	Importance Rating	2.9	3.3
Proposed Question: 72 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. Cannot replace the US without an up-to-date physical. b. SM cannot be part of the Fire Brigade. d. FS cannot be part of the Fire Brigade without an up-to-date physical.			
Technical Reference(s): NT-OT-07007		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-501-05K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> X </u>		
10 CFR Part 55 Content:	55.41 <u> .10 </u> 55.43 <u> .5 </u>		
Comments (Why is it an upper level question): Must determine manning requirement based on plant mode and determine how to replace an individual.			

Question: 72

The following plant conditions exist:

- The plant is at 100% power.
- The Shift Manager is notified that the on-duty Field Supervisor, who is also the Fire Brigade Captain, failed the required two-year physical due to the spirometer test.

Which of the following actions can be taken to replace the Field Supervisor/Fire Brigade Captain?

- a. The Field Supervisor can take the Unit Supervisor position. The Unit Supervisor can take the Field Supervisor position and Fire Brigade Captain position, if qualified.
- b. The Field Supervisor can remain in the Field Supervisor position. The Shift Manager can become the Fire Brigade Captain, if qualified.
- c. The Field Supervisor can remain in the Field Supervisor position. A spare Equipment Operator III can become the Fire Brigade Captain, if qualified.
- d. The Field Supervisor can remain in the Field Supervisor position and the Fire Brigade Captain Position for up to two hours while waiting for a replacement to be called in.

Answer:

c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	3	3
	Group #		
	K/A#	GEN 2.4.39	
	Importance Rating	3.3	3.1

Proposed Question: 73
See Attached

Proposed Answer: See attached

- Explanation (Why the distractors are incorrect):
- a. Cannot make PARs.
 - b. Cannot classify.
 - c. Cannot downgrade.

Technical Reference(s): RA-EP-01500
Reference Attached: _____
(Attach if not previously provided)

Proposed references to be provided to applicants during examination:
None

Learning Objective (As available): OPS-GOP-601-03K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 .10
55.43 .5

Comments (Why is it an upper level question):

Question: 73

Which of the following actions can be performed by a Reactor Operator during the implementation of the Emergency Plan?

1. Off-site dose assessment
 2. Classification of the event
 3. Protective action recommendation
 4. Downgrade of the event
 5. State and counties notifications
 6. NRC notifications
-
- a. 1, 3, 5
 - b. 2, 4, 6
 - c. 2, 3, 4
 - d. 1, 5, 6

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	2	1
	K/A#	000-029-EA2.05	
	Importance Rating	3.4	3.4
Proposed Question: 74 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): b. RCS heats up because MFW flow is lowering. c. RFR will not actuate until < 23.5% power. d. System flow would not exceed the capacity of the MFW System.			
Technical Reference(s): ICS Logic Drawings		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-302-02K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> X </u>		
10 CFR Part 55 Content:	55.41 <u> .2 </u> 55.43 _____		
Comments (Why is it an upper level question): Must determine how MFW is effected by an ATWS and how MFW will respond.			

Question: 74

The following plant conditions exist:

- The plant was initially at 100% power.
- The main turbine tripped due to high vibrations.
- The reactor failed to trip.
- Efforts to de-energize Buses E2 and F2 from the Control Room have been UNSUCCESSFUL.

Which one of the following describes the response of the Main Feedwater Control Valves (MFCVs) in ICS automatic control?

- a. MFCVs move in the closed direction due to ICS being in TRACK.
- b. MFCVs move in the open direction due to the RCS heatup.
- c. MFCVs move in the closed direction due to RAPID FEEDWATER REDUCTION.
- d. MFCVs move in the open direction due to excessive steam flow through the MS Safety Valves.

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	BW/A02-AA2.1	
	Importance Rating	3.6	4.0

Proposed Question: 75

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. Loss of NNI/ICS AB will route to DB-OP-02000.
- c. NNI not affected if power source transfers.
- d. YBU will power NNI on a loss of YAU.

Technical Reference(s):
DB-OP-02532

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-132-01K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .10
55.43 .5

Comments (Why is it an upper level question):

Must analyze plant conditions to determine appropriate procedure to use.

Question: 75

The following plant conditions exist:

- The plant is in Mode 3.
- The following annunciators are received:
 - ICS/NNI 118 VAC PWR TRBL (14-2-D)
 - ICS INPUT MISMATCH (14-4-E)
 - ICS INPUT TRANSFER (14-4-F)
 - NNI X AC power light is out

Which one of the following is the proper procedure to be FIRST utilized?

- a. DB-OP-02000, RPS, SFAS, SFRCS Trip, or SG Tube Rupture
- b. DB-OP-02532, Loss of NNI/ICS Power
- c. DB-OP-02537, Loss of D1P and DAP
- d. DB-OP-02541, Loss of YAU

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		1
	Group #		1
	K/A#	000-003-AK3.03	
	Importance Rating		3.7
Proposed Question: 76 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. Rx demand hi limit does not cause ICS to go into track. b. Turbine will not go into manual on high steam pressure with hi load limit in effect. d. BTU limit does not cause ICS to go into track.			
Technical Reference(s): DB-OP-02516 DB-OP-02014		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SYS-512-02K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> X </u>		
10 CFR Part 55 Content:	55.41 _____ 55.43 <u> .5 </u>		
Comments (Why is it an upper level question): Must recognize power reduction is being performed with ULD MAX LOAD LIMIT and that the HI LOAD LIMIT places ICS in track.			

Question: 76

The following plant conditions exist:

- The reactor was at 100% power with all ICS stations in automatic.
- Control Rod 2-3 has dropped.
- A power reduction is in progress in accordance with DB-OP-02516, CRD Malfunctions.

Annunciator 14-6-D, ICS IN TRACK, is in alarm due to which one of the following annunciators also being in alarm?

- a. 14-2-C, ICS RX DEMAND HI LIMIT
- b. 14-3-F, HPT MN STM PRESS
- c. 14-5-C, ICS HI LOAD LIMIT
- d. 14-6-E, ICS SG1 BTU LIMIT

Answer:

c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		1
	Group #		1
	K/A#	000-003-AK2.05	
	Importance Rating		2.8
Proposed Question: 77 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. Cannot go above 60% power with a misaligned control rod. c. Bypassing the asymmetric alarm input does not take the dropped rod out of the group average. d. Surveillance frequency does not change for the affected group.			
Technical Reference(s): DB-OP-02516		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SYS-501-04K			
Question Source:	Bank # _____ Modified Bank # _____ New _____	_____ (Note changes or attach parent) <u> X </u>	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 _____ 55.43 <u> .2 </u>		
Comments (Why is it an upper level question):			

Question: 77

Reactor power has been reduced from 100% to 55% due to a dropped rod. Bypassing the Control Rod Group Asymmetry Alarm input is required since rod misalignment will exceed four hours.

The alarm inputs are bypassed for the affected group to:

- a. permit reactor power to be raised above 60%.
- b. allow the asymmetry fault to be reset on the Rod Control Panel.
- c. take the dropped rod position out of the group average circuit.
- d. reduce the frequency of verifying the affected group's rod position with the Asymmetric Rod Monitor inoperable.

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		1
	Group #		1
	K/A#	000-067-AA1.09	
	Importance Rating		3.3

Proposed Question: 78

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. Turbine Trip AB will be entered after the Fire Procedure.
- b. Serious Station Fire AB will be reviewed after the Fire Procedure.
- c. Load Rejection AB will not be used.

Technical Reference(s):
DB-OP-02529

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-129-01K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge _____
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 .10
55.43 .5

Comments (Why is it an upper level question):

Must analyze the annunciators to determine the correct AB to enter.

Question: 78

The following plant conditions exist:

- A plant startup is in progress.
- Reactor power is 18%.
- The main generator has just been synchronized to the grid.
- The following alarms annunciate in the Control Room:
 - FIRE WTR TURB BLDG PRESS LO (9-5-G)
 - FIRE WTR ELEC PMP ON (9-2-G)
 - FIRE OR RADIATION TRBL (9-1-G)

Which one of the following procedures should be entered FIRST?

- a. DB-OP-02500, Turbine Trip
- b. DB-OP-02501, Serious Station Fire Procedure
- c. DB-OP-02520, Load Rejection
- d. DB-OP-02529, Fire Procedure

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		1
	Group #		1
	K/A#	000-069-AK1.01	
	Importance Rating		3.1
Proposed Question: 79 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. Shielding Building Tech. Spec. Basis limits radioactive releases from containment. b. No pressure limit on containment entries. c. Purge valves are leak rate tested and are not opened to normal operations.			
Technical Reference(s): Tech. Spec. 3/4.6 Bases		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-436-04A			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 _____ 55.43 <u> .2 </u>		
Comments (Why is it an upper level question):			

Question: 79

Tech. Spec. 3.6.1.4 limits the containment internal pressure to a positive 25 inches W. G. The basis for this pressure limit is to ensure:

- a. containment leak rate is consistent with the safety analysis during normal conditions.
- b. personnel can enter containment during emergency conditions.
- c. containment purge isolation valves remain closed during abnormal conditions.
- d. containment does NOT exceed design pressure during LOCA conditions.

Answer:

- d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		1
	Group #		1
	K/A#	BW/E03-EA1.1	
	Importance Rating		3.8

Proposed Question: 80

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

a./b./d. Need both MU pumps running to place both injection lines in service.

Technical Reference(s):
DB-OP-02000

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-304-05K

Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
ORQ-0050	Modified Bank #	<u> </u>	
	New	<u> </u>	

Question History	Previous NRC Exam	<u> </u>
2000 Requal Exam	Previous Quiz / Test	<u> X </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> </u>
	55.43	<u> .5 </u>

Comments (Why is it an upper level question):

Must determine loss of a makeup pump and then apply Specific Rule 3.

Question: 80

The following plant conditions exist:

- An SGTR has occurred.
- A loss of minimum SCM has occurred.
- A lockout has occurred on D1 bus.
- Pressurizer level is 8 inches.

DB-OP-02000 directs placing both makeup injection lines in service. This is:

- a. allowed because of the low pressurizer level.
- b. allowed because of the loss of minimum SCM.
- c. NOT allowed because both MU pumps are NOT available.
- d. NOT allowed because both LPI pumps are NOT available.

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		1
	Group #		2
	K/A#	000-033-AK3.02	
	Importance Rating		3.9
Proposed Question: 81 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a./b. Loss of NI AB directs entering T.S. 3.0.3; begin shutdown within one hour. c. T.S. 3.0.3 requires HSB in six hours, IR NIs not needed when reactor is S/D.			
Technical Reference(s): DB-OP-02505		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-105-07K			
Question Source: OLC-3402	Bank # Modified Bank # New	<u> X </u> _____ _____	(Note changes or attach parent)
Question History 1995 Quiz	Previous NRC Exam Previous Quiz / Test	_____ <u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge Comprehension or Analysis	_____ <u> X </u>	
10 CFR Part 55 Content:	55.41 55.43	_____ <u> 2 </u>	
Comments (Why is it an upper level question): Must analyze NI failure to determine correct actions.			

Question: 81

The following plant conditions exist:

- The plant is at 50% power.
- Both intermediate range NI detectors fail low.

Which one of the following actions must be performed? (Assume that repairs will take approximately 48 hours to complete.)

- a. Power operation may continue, but the crew must maintain power at less than 50%.
- b. Power operation may continue, and the crew may increase power.
- c. Within one hour, take action to place the unit in cold shutdown within the next 36 hours.
- d. Within one hour, take action to place the unit in hot standby within the next six hours.

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		1
	Group #		2
	K/A#	BW/E08-EK2.1	
	Importance Rating		3.9
Proposed Question: 82 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a./c. MUPs are stopped prior to transfer to emergency sump. b. MUP suction is aligned to the MUT prior to transfer to emergency sump.			
Technical Reference(s): DB-OP-02000		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-309-04K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 _____ 55.43 <u> .5 </u>		
Comments (Why is it an upper level question):			

Question: 82

The following plant conditions exist:

- A small break LOCA has occurred.
- RCS pressure is 650 psig.
- LPI pump suction has been transferred to the emergency sump.

Which one of the following describes the status of the makeup pumps following the transfer?

- a. Makeup pumps running with suction aligned to LPI pump discharge (piggybacked).
- b. Makeup pumps off with suction aligned to LPI pump discharge (piggybacked).
- c. Makeup pumps running with suction aligned to the makeup tank.
- d. Makeup pumps off with suction aligned to the makeup tank.

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		1
	Group #		2
	K/A#	000-037-AA1.11	
	Importance Rating		3.3

Proposed Question: 83

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a. The vacuum rad monitor in alarm is a symptom for SGTL.
- b. No change in pressurizer level.
- d. Pressurizer level is being maintained.

Technical Reference(s):
DB-OP-02531

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-131-01K

Question Source:	Bank #	<u> X </u>	
OLC-3804	Modified Bank #	<u> </u>	(Note changes or attach parent)
	New	<u> </u>	

Question History	Previous NRC Exam	<u> X </u>
1997 Exam	Previous Quiz / Test	<u> </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> </u>
	55.43	<u> .5 </u>

Comments (Why is it an upper level question):

Must analyze plant conditions and determine correct procedure to enter.

Question: 83

The following plant conditions exist:

- Reactor Coolant System pressure is 2155 psig.
- Reactor Coolant System temperature is 582°F.
- Makeup to the pressurizer has increased from 60 to 85 gpm.
- Pressurizer level is 220 inches.
- RE 8435, Condensate Polishing Demineralizer 1 & 2 Rad Detector, is in alarm.
- RE 1003A, Vacuum System Discharge Radiation Monitor is in alarm
- Makeup tank level has lowered from 84 inches to 78 inches over seven minutes.

Which one of the following entry conditions has been met?

- a. A small RCS leak is in progress; enter DB-OP-02522, Small RCS Leaks.
- b. A pressurizer space leak is in progress; enter DB-OP-02513, Pressurizer Malfunctions.
- c. An SG tube leak is in progress; enter DB-OP-02531, Steam Generator Tube Leak.
- d. An SG tube rupture is in progress; enter DB-OP-02000, RPS, SFAS, SFRCS Trip, or Steam Generator Tube Rupture.

Answer:

c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		1
	Group #		2
	K/A#	000-065-AA2.01	
	Importance Rating		3.2

Proposed Question: 84

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

a./b./c. When less than 75 psig, DB-OP-02528 directs tripping the reactor, initiating SFRCS, and entering DB-OP-02000.

Technical Reference(s):
DB-OP-02528

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-128-03K

Question Source:	Bank #	<u> X </u>	
OLC-3994	Modified Bank #	<u> </u>	(Note changes or attach parent)
	New	<u> </u>	

Question History	Previous NRC Exam	<u> </u>
1998 Quiz	Previous Quiz / Test	<u> X </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>
	Comprehension or Analysis	<u> </u>

10 CFR Part 55 Content:	55.41	<u> </u>
	55.43	<u> .5 </u>

Comments (Why is it an upper level question):

Question: 84

The following plant conditions exist:

- The plant is at 100% power.
- Annunciator 9-1-F, INSTR AIR HDR PRESS LO, is in alarm.
- PI 810, Instrument Air Header Pressure, indicates 71 psig and stable.

Which one of the following actions is required to be performed in accordance with DB-OP-02528, Loss of Instrument Air?

- a. Commence a reactor shutdown in accordance with DB-OP-02504, Rapid Shutdown.
- b. Commence a reactor shutdown in accordance with DB-OP-06903, Plant Shutdown and Cooldown.
- c. Terminate any plant transients and maintain stable plant conditions in accordance with DB-OP-06902, Power Operations.
- d. Trip the reactor, manually initiate SFRCS and enter DB-OP-02000, RPS, SFAS, SFRCS Trip, or SG Tube Rupture.

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		2
	Group #		1
	K/A#	013-K1.12	
	Importance Rating		4.4
Proposed Question: 85 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. Sequencer blocks start signals but does not trip components. c. Cannot place the sequencer in a tripped condition. d. All equipment would stop on an undervoltage. Starting the equipment would serve no purpose.			
Technical Reference(s): Tech. Spec. 3/4.3.2		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-433-03K			
Question Source: ORQ-0493	Bank # Modified Bank # New	<u> X </u> _____ _____	(Note changes or attach parent)
Question History 1996 Exam	Previous NRC Exam Previous Quiz / Test	_____ <u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge Comprehension or Analysis	_____ <u> X </u>	
10 CFR Part 55 Content:	55.41 55.43	_____ <u> .2 </u>	
Comments (Why is it an upper level question): Must analyze conditions and determine correct action.			

Question: 85

The plant is operating at 100%.

During performance of the SFAS Channel 1 Functional Test, it is discovered that the sequencer does NOT meet the required time intervals.

Which one of the following actions must be taken in order to continue 100% power operations?

- a. Trip the associated components within one hour.
- b. Remove the SFAS Channel 1 sequencer within one hour.
- c. Place the SFAS Channel 1 sequencer in the tripped condition within one hour.
- d. Start the associated components within one hour.

Answer:

b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		2
	Group #		1
	K/A#	015-A3.02	
	Importance Rating		3.9
Proposed Question: 86 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. Must trip within one hour, per Tech. Specs. b. Must bypass within one hour, per Tech. Specs. c. Power to pumps setpoint not required to change.			
Technical Reference(s): Tech. Specs. 3/4.3.1		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-433-03K			
Question Source: ORQ-0316	Bank # Modified Bank # New	<u> X </u> _____ _____	(Note changes or attach parent)
Question History 1996 Exam	Previous NRC Exam Previous Quiz / Test	_____ <u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge Comprehension or Analysis	_____ <u> X </u>	
10 CFR Part 55 Content:	55.41 55.43	_____ <u> .2 </u>	
Comments (Why is it an upper level question): Must analyze plant conditions and determine required actions.			

Question: 86

The following plant conditions exist:

- The plant is at 78%.
- Reactor Coolant Pump 2-1 has tripped.
- The DC power supply for NI-5, Power Range Detector, has failed causing NI-5 to fail low.

Based on the given information, which one of the following administrative actions must be performed?

- a. Place RPS Channel 2 in a tripped condition within four hours.
- b. Place RPS Channel 2 in bypass within four hours.
- c. Reset the power to pumps trip setpoints within four hours.
- d. Reset the RPS high flux trip setpoints within four hours.

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		2
	Group #		2
	K/A#	010-K4.03	
	Importance Rating		4.1
Proposed Question: 87 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. Immediate only for radioactive material issues. b. One hour only required if safety systems didn't actuate properly. d. Eight hour only for specific systems and components.			
Technical Reference(s): DB-OP-00002		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-510-03K			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> X </u>		
10 CFR Part 55 Content:	55.41 _____ 55.43 <u> .5 </u>		
Comments (Why is it an upper level question): Must analyze plant conditions to determine when notifications are required.			

Question: 87

The following plant conditions exist:

- A reactor trip occurred due to a stuck open PZR spray valve.
- The spray block valve was closed at 1550 psig in the RCS.
- All other systems responded normally.

Within what time frame must the NRC be notified?

- a. Immediate
- b. 1 hour
- c. 4 hours
- d. 8 hours

Answer:

- c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		2
	Group #		2
	K/A#	062-A3.04	
	Importance Rating		2.9
Proposed Question: 88 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): b./c./d. Tech. Spec interpretation allows Y4 to be powered from the essential alternate source before applying Tech. Spec. 3.8.2.1.			
Technical Reference(s): Tech. Spec. Interpretation 89-0003		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-438-03A			
Question Source: OLC-4880	Bank # Modified Bank # New	<u> X </u> _____ _____	(Note changes or attach parent)
Question History	Previous NRC Exam Previous Quiz / Test	_____ _____	
Question Cognitive Level:	Memory or Fundamental Knowledge Comprehension or Analysis	_____ <u> X </u>	
10 CFR Part 55 Content:	55.41 55.43	_____ <u> .1 </u>	
Comments (Why is it an upper level question): Must analyze plant conditions to determine appropriate action.			

Question: 88

The following plant conditions exist:

- The plant is at 100% power.
- 120 VAC Vital Bus Y4 is shifted to its ALTERNATE power source.
- All other 120 VAC vital buses are powered normally.

Which one of the following describes the action that must be taken as a result of these conditions?

- a. Operation may continue for up to 24 hours as long as all other 120 VAC vital busses remain powered by their associated inverter.
- b. Restore Y4 to its inverter supply within 1 hour or be in hot standby within the next 6 hours and cold shutdown within the following 30 hours.
- c. Restore Y4 to its inverter supply within 8 hours or be in hot standby within the next 6 hours and cold shutdown within the following 30 hours.
- d. Commence an immediate reactor shutdown and be in hot standby within 6 hours and cold shutdown within the following 30 hours.

Answer:

a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		2
	Group #		2
	K/A#	075-2.1.26	
	Importance Rating		2.6
Proposed Question: 89			
See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect):			
<ul style="list-style-type: none"> a. No fire reported. b. No injuries reported. d. Circ. pump house is not a confined space. 			
Technical Reference(s): RA-EP-02850		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination:			
None			
Learning Objective (As available): OPS-GOP-605-10K			
Question Source:	Bank # _____	Modified Bank # _____	(Note changes or attach parent)
	New	<u> X </u>	
Question History	Previous NRC Exam _____	Previous Quiz / Test _____	
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u>	Comprehension or Analysis _____	
10 CFR Part 55 Content:	55.41 _____	55.43 <u> .5 </u>	
Comments (Why is it an upper level question):			

Question: 89

The following plant conditions exist:

- The plant is in Mode 5.
- A maintenance person reports a large amount of oil has been spilled into the circ. water pump house and is draining into the sump.

Which one of the following actions should be performed?

- a. Activate the Fire Brigade.
- b. Activate the First Aid Team.
- c. Activate the HAZWOPER Response Team.
- d. Activate the Confined Space Rescue Team.

Answer:

c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	GEN 2.1.03	
	Importance Rating		3.4
Proposed Question: 90 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. RO not required. b. US not required. d. RO not required.			
Technical Reference(s): DB-OP-00100		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-502-01K			
Question Source:	Bank # _____ Modified Bank # _____ New _____	_____ (Note changes or attach parent) <u> X </u>	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 _____ 55.43 <u> .5 </u>		
Comments (Why is it an upper level question):			

Question: 90

Which of the following are required to review fire protection problems during shift turnover?

- a. Reactor Operator and Unit Supervisor
- b. Unit Supervisor and Shift Manager
- c. Shift Manager and Shift Engineer
- d. Shift Engineer and Reactor Operator

Answer:

c.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	GEN 2.1.11	
	Importance Rating		3.8
Proposed Question: 91 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. Closing SF1 and SF2 not required by Tech. Specs. c. Not required to stop positive reactivity additions. d. Increasing level is not required by Tech. Specs.			
Technical Reference(s): Tech. Spec. 3.9.10		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-439-01K			
Question Source: OLC-4895	Bank # Modified Bank # New	_____ <u>X</u> _____	(Note changes or attach parent)
Question History	Previous NRC Exam Previous Quiz / Test	_____ _____	
Question Cognitive Level:	Memory or Fundamental Knowledge Comprehension or Analysis	_____ <u>X</u>	
10 CFR Part 55 Content:	55.41 55.43	_____ <u>.2</u>	
Comments (Why is it an upper level question): Must analyze plant conditions and determine correct Tech. Spec. action.			

ORIGINAL

Question: 91

The following plant conditions exist:

- The plant is in Mode 6.
- Refueling operations are NOT in progress.
- DH Pump #1 is running and lined up to the RCS.
- DH Pump #2 is O.O.S. and can't be returned to operable for two days.
- Refueling canal level has just been determined to be less than 23 feet.

Which one of the following actions can be taken to satisfy the Tech. Spec. requirements?

- a. Increase RCS temperature to greater than 140°F and enter Mode 5.
- b. Open DH 1A and throttle DH flow to 1500 gpm per line.
- c. Stop all core alterations and positive reactivity changes.
- d. Increase refueling canal water level to more than 23 feet or make #2 DH pump operable.

Answer:

d.

Question: 91

The following plant conditions exist:

- The plant is in Mode 6.
- Refueling operations are in progress.
- DH Pump 1 is running and lined up to the RCS.
- DH Pump 2 is out of service for maintenance.
- Refueling canal level has just been determined to be less than 23 feet.

Which one of the following actions can be taken to satisfy the Tech. Spec. requirements?

- a. Within one hour, close SF1 and SF2, Fuel Transfer Tube Isolation Valves.
- b. Immediately stop fuel movement in the reactor vessel.
- c. Immediately stop all boron dilution activities.
- d. Within one hour, increase refueling canal water level to more than 23 feet.

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	GEN 2.1.17	
	Importance Rating		3.6

Proposed Question: 92

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a./c. State of Ohio does not require notification.
- b. Lucas County does not require notification.

Technical Reference(s):
DB-OP-00002

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-510-03K

Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
ORQ-0058	Modified Bank #	<u> </u>	
	New	<u> </u>	

Question History	Previous NRC Exam	<u> </u>
	Previous Quiz / Test	<u> </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> </u>
	55.43	<u> .5 </u>

Comments (Why is it an upper level question):

Must analyze the plant conditions and determine notification requirements.

Question: 92

The reactor was tripped by ARTS due to a valid turbine trip on low EHC fluid pressure. The Emergency Plan was reviewed after exiting DB-OP-02000.

Which one of the following is required for off-site agencies notifications?

- a. NRC, State of Ohio, and Ottawa County as soon as possible.
- b. NRC within 24 hours; Lucas County and Ottawa County within 15 minutes.
- c. NRC within one hour; State of Ohio, Lucas County, and Ottawa County within 15 minutes.
- d. NRC within four hours and Ottawa County as soon as possible if main steam line safeties lift.

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	GEN 2.2.05	
	Importance Rating		2.7
Proposed Question: 93 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. Required for T. S. amendments. c. Required for T.S. violations. d. Required for conditions adverse to quality.			
Technical Reference(s): NOP-LP-4003		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-SAR-002-04A			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 _____ 55.43 <u> .3 </u>		
Comments (Why is it an upper level question):			

Question: 93

Which one of the following is required for a proposed modification to a system that is described in the USAR?

- a. License Amendment Request
- b. 10 CFR 50.59, Evaluation
- c. Licensee Event Report
- d. Condition Report

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	GEN 2.2.12	
	Importance Rating		3.4

Proposed Question: 94

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- b. Maintenance Manager notification not required.
- c./d. Engineering Manager notification not required.

Technical Reference(s):
DB-OP-00002

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-510-01K

Question Source:	Bank #	<u> X </u>	
ORQ-0305	Modified Bank #	<u> </u>	(Note changes or attach parent)
	New	<u> </u>	

Question History	Previous NRC Exam	<u> </u>
1998 Test	Previous Quiz / Test	<u> X </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> </u>
	55.43	<u> .2 </u>

Comments (Why is it an upper level question):

Must analyze plant conditions and determine notifications.

Question: 94

The following plant conditions exist:

- Mode 1, 100% power.
- RPS Channel 2 Monthly Functional Test is in progress.
- No other testing or abnormal conditions exists in the other three RPS channels.

The I&C Technician informs the Shift Manager that the RPS Channel 2 power/pumps trip bistable will NOT trip.

Which one of the following identifies the on-site personnel who are required to be notified of the bistable failure?

- a. Duty Plant Manager and Duty Operations Manager
- b. Duty Plant Manager and Duty Maintenance Manager
- c. Duty Engineering Manager and Duty Maintenance Manager
- d. Duty Engineering Manager and Duty Operations Manager

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	GEN 2.2.27	
	Importance Rating		3.5
Proposed Question: 95 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): b. Boron concentration is not changing. c. No guidance for lowering canal level. d. FH AB applies only for a damaged assembly.			
Technical Reference(s): DB-OP-00030		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-FHT-103-05K			
Question Source: ORQ-0268	Bank # Modified Bank # New	<u> X </u> _____ _____	(Note changes or attach parent)
Question History 1996 Test	Previous NRC Exam Previous Quiz / Test	_____ <u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge Comprehension or Analysis	_____ <u> X </u>	
10 CFR Part 55 Content:	55.41 55.43	_____ <u> .7 </u>	
Comments (Why is it an upper level question): Must analyze plant conditions to determine correct procedure.			

Question: 95

The following plant conditions exist:

- The plant is in Mode 6.
- Refueling operations are in progress.
- Fuel handling personnel inform the Control Room that the refueling canal level is rapidly decreasing.

Which one of the following procedures contains guidance to mitigate this event?

- a. DB-OP-00030, Fuel Handling Operations
- b. DB-OP-02510, Loss of Reactor Coolant System Boron
- c. DB-NE-06101, Fuel/Control Component Shuffle
- d. DB-OP-02530, Fuel Handling Accident

Answer:

- a.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	GEN 2.3.1	
	Importance Rating		3.0
Proposed Question: 96 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. Dose Assessment Coordinator is responsible for dose assessment outside the protected area. b. Ops. Support Center Manager cannot authorize emergency dose. c. Emergency RP Manager cannot authorize emergency dose.			
Technical Reference(s): RA-EP-02620		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-601-06K			
Question Source: ORQ-1968	Bank # Modified Bank # New	<u> X </u> _____ _____	(Note changes or attach parent)
Question History 2000 Test	Previous NRC Exam Previous Quiz / Test	_____ <u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge Comprehension or Analysis	_____ <u> X </u>	
10 CFR Part 55 Content:	55.41 55.43	_____ <u> .4 </u>	
Comments (Why is it an upper level question): Must determine what the dose would be and who can authorize.			

Question: 96

The following plant conditions exist:

- A large break LOCA has occurred.
- A General Emergency has been declared.

Four hours after the start of the events, an inspection of the ECCS room revealed a leak on CTMT Spray Pump 1. The leak is required to be isolated to prevent a loss of long term core cooling.

The dose rate in ECCS Room 1 is 40 Rem/hr., and the job is expected to take 15 minutes.

Whose authorization is required for isolation of the CTMT Spray Pump 1 leak?

- a. Dose Assessment Coordinator
- b. Operations Support Center Manager
- c. Emergency Radiation Protection Manager
- d. Emergency Director

Answer:

- d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	GEN 2.3.05	
	Importance Rating		2.5

Proposed Question: 97

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

a./ c./ d. The E-Plan, TRM, and ODCM do not contain information on radiation monitoring devices.

Technical Reference(s):
Tech. Spec. Section 6.12

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-400-02K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 _____
55.43 .2

Comments (Why is it an upper level question):

Question: 97

The minimum capabilities of the radiation monitoring devices that are needed for entry into a High Radiation Area are specified in the Davis-Besse _____.

- a. Technical Requirements Manual
- b. Technical Specifications
- c. Off-Site Dose Calculation Manual
- d. Emergency Plan

Answer:

- b.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	GEN 2.3.10	
	Importance Rating		3.3

Proposed Question: 98

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

- a/b. RCP AB not valid during RCP maintenance.
- c. Station isolation is for weather-related events.

Technical Reference(s):
RA-EP-02861

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-SYS-508-09K

Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
ORQ-0233	Modified Bank #	<u> </u>	
	New	<u> </u>	

Question History	Previous NRC Exam	<u> </u>
1999 Exam	Previous Quiz / Test	<u> X </u>

Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>
	Comprehension or Analysis	<u> X </u>

10 CFR Part 55 Content:	55.41	<u> </u>
	55.43	<u> .4 </u>

Comments (Why is it an upper level question):

Must analyze data and determine correct procedures.

Question: 98

The following plant conditions exist:

- The plant is in Mode 5.
- Work is being performed on the Reactor Coolant Pump 2-1 seal.
- A high radiation alarm is received on RE 2387, CTMT Vessel Interior Area Monitor.
- The Containment Purge System trips on High Radiation.

Which of the following lists the two procedures that should be used to mitigate this event?

- a.
 - DB-OP-02515, Reactor Coolant Pump and Motor Abnormal Operations
 - RA-EP-02864, Containment Evacuation
- b.
 - DB-OP-02515, Reactor Coolant Pump and Motor Abnormal Operations
 - RA-EP-02870, Station Isolation
- c.
 - RA-EP-02861, Radiological Incidents
 - RA-EP-02870, Station Isolation
- d.
 - RA-EP-02861, Radiological Incidents
 - RA-EP-02864, Containment Evacuation

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	GEN 2.3.11	
	Importance Rating		3.2
Proposed Question: 99 See Attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): a. Only need one isolation valve. b. Both doors can be open. c. TBV can be removed.			
Technical Reference(s): Tech. Spec. 3.9.4		Reference Attached: _____ (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: None			
Learning Objective (As available): OPS-GOP-439-01K			
Question Source: ORQ-1709	Bank # Modified Bank # New	<u> X </u> _____ _____	(Note changes or attach parent)
Question History	Previous NRC Exam Previous Quiz / Test	_____ _____	
Question Cognitive Level:	Memory or Fundamental Knowledge Comprehension or Analysis	_____ <u> X </u>	
10 CFR Part 55 Content:	55.41 55.43	_____ <u> .2 </u>	
Comments (Why is it an upper level question): Must analyze conditions to determine if Tech. Spec. entry is required.			

Question: 99

The following plant conditions exist:

- The plant is in Mode 6.
- Fuel handling operations are in progress.

Which of the following conditions would require entry into Tech. Spec. 3.9.4, Containment Penetrations?

- a. A CTMT isolation valve inside CTMT fails its Local Leak Rate Test (LLRT).
- b. Both personnel air lock doors are open.
- c. Turbine Bypass Valve SP13A1 is removed.
- d. Nitrogen pressure is bled off of the electrical penetrations to CTMT.

Answer:

d.

EXAMINATION OUTLINE CROSS-REFERENCE:	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	GEN 2.4.43	
	Importance Rating		3.5

Proposed Question: 100

See Attached

Proposed Answer: See attached

Explanation (Why the distractors are incorrect):

b./c./d. State and counties are notified first if CANS is not functioning.

Technical Reference(s):
RA-EP-02110

Reference Attached: _____
(Attach if not
previously provided)

Proposed references to be provided to applicants during examination:

None

Learning Objective (As available): OPS-GOP-603-05K

Question Source: Bank # _____
Modified Bank # _____ (Note changes or attach parent)
New X

Question History Previous NRC Exam _____
Previous Quiz / Test _____

Question Cognitive Level: Memory or Fundamental Knowledge X
Comprehension or Analysis _____

10 CFR Part 55 Content: 55.41 _____
55.43 .5

Comments (Why is it an upper level question):

Question: 100

The following plant conditions exist:

- The plant is at 100% power.
- An Alert has been declared.
- The Computerized Automated Notification System (CANS) has failed.

Which one of the following notifications should be made FIRST?

- a. State and counties using the 4-way Ringdown Circuit.
- b. Emergency Response Organization (ERO) using the ERO Group Page.
- c. Individual contact of the emergency responders using the ERO On-Call Report.
- d. NRC using the Emergency Notification System.

Answer:

- a.