

Region III Written Examination and Operating Test Comments

The following is contained in this package:

ES-401-9 Written Examination Review Worksheet (1 worksheet for RO & SRO examinations).
Written examination with comments.
Operating Test with comments.

Note that only pages with comments were retained. Refer to submitted examination for all other examination pages.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. U/E/S	6. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward		
1	H	2						ok				S	new - both
2	F	2						ok				S	new - both
3	H	3						ok				S	new - both
4	F	2						ok				S	new - both
5	H	3						ok				S	new - both
6	FH	2						ok				US	bank - both station says "higher" [accepted station's explanation that there are two pieces of info to use to arrive at correct answer]
7	H	2				x		ok				U	bank - both distractors c. and d. are implausible, increasing power doesn't result in control valves or bypass valves closing. [station will modify the distractors]
8	H	2						ok					new - both
9	H	3						ok					new - both
10	F	2						ok					new - both

Instructions

[Refer to Appendix B for additional information regarding each of the following concepts.]

- Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
- Enter the level of difficulty (LOD) of each question using a 1 - 5 (easy - difficult) rating scale (questions in the 2 - 4 range are acceptable).
- Check the appropriate box if a psychometric flaw is identified:
 - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
 - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
 - The answer choices are a collection of unrelated true/false statements.
 - More than one distractor is not credible.
 - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).
- Check the appropriate box if a job content error is identified:
 - The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
 - The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
 - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
 - The question requires reverse logic or application compared to the job requirements.
- Based on the reviewer's judgment, is the question as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
- For any "U" ratings, at a minimum, explain how the Appendix B psychometric attributes are not being met.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. U/E/S	6. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward		
11	F	2						ok				S	new - both
12	F	2						ok				S	new - both
13	F	2						ok				U	new - both station says "higher" this k/a should be de-selected as n/a to LaSalle (plant doesn't go prompt critical). [Station agreed. k/a de-selected, replaced question.]
14	F	3						ok				E	bank - both the correct answer does not make total sense as written (grammar). [Station agreed, will modify the answer. Answer was initially copied directly from procedure statement.]
15	F	3						ok				S	new - both
16	F	3						ok				S	mod - both
17	F	3						ok				S	new - both
18	H	2						ok				S	new - both
19	H	2						ok				ES	new - both distractor d. is acceptable, but clearer if changed per note [kept d. without change, change was not necessary.]
20	F	2						ok				E	new - both consider putting question in past tense [changed to past tense]
21	F	2						ok				S	new - both
22	F	3						ok				E	new - both consider putting question in past tense [changed to past tense]
23	H	4						ok				S	new - both
24	H	2						ok				S	new - both
25	H	3						ok				S	mod - R01
26	H	2						ok				U	new - both RO task? [Not an RO task. Replaced question.]
27	H	3						ok				UE	new - both consider putting question in past tense. RO task? [Yes, RO task. changed to past tense]
28	H	2						ok				S	new - both
29	H	3						ok				S	bank - both
30	H	2						ok				S	new - both

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. U/E/S	6. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward		
31	H	3						ok				S	new - both
32	H	2						ok				S	new - both
33	H	3						ok				S	new - both
34	F	3						ok				S	new - both
35	H	3						ok				U	mod - both station says "memory" <i>[Station agrees - higher skill question]</i>
36	H	2						ok				S	new - R02
37	F	3						ok				S	bank - both
38	HL	2						ok				US	new - both station says "memory" <i>[trained this way in classroom - memory]</i>
39	H	2						ok				S	new - both
40	F	2						ok				E	new - both consider using past tense in stem, insert "the" in distractor d. <i>[put in past tense, grammar error corrected.]</i>
41	H	3						ok				S	new - R03
42	F	2						ok				S	new - both
43	F	2						ok				S	new - both
44	H	2						ok				E	bank - both consider using past tense <i>[put in past tense]</i>
45	H	2						ok				S	bank - both
46	F	2						ok				S	new - both
47	FH	2						ok				US	new - R04 station says "higher" <i>[more than one item to analyze - higher is correct. changed "provides" in the stem to "has caused"]</i>
48	H	2						ok				S	new - both
49	FH	2						ok				US	new - both station says "higher" <i>[two items to analyze - higher is correct.]</i>
50	F	2						ok				S	new - R05

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. U/E/S	6. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward		
51	FH	3						ok				US	new - both station says "higher" [two items to analyze - higher]
52	F	2						ok				S	bank - R06
53	H	2						ok				S	new - both
54	H	3						ok				US	bank - R07 RO task? [Yes, ROs are required to recognize T.S. entry conditions]
55	F	2						ok				S	new - both
56	H	3						ok				S	new - both
57	H	3						ok				S	new - both
58	H	3						ok				US	new - both RO task? [Yes, RO required to recognize conditions given and take proper corrective action.]
59	F	2						ok				S	new - R08
60	H	4						ok				S	new - R09
61	H	3						ok				E	mod - both missing comma after "fails" in stem [added comma]
62	H	3						ok				S	new - both
63	H	3						ok				E	new - R10 make new bullet of last half of 3 rd bullet [format corrected.]
64	H	3						ok				S	mod - R11
65	H	2						ok				S	new - both
66	F	3						ok				S	bank - both
67	H	2						ok				S	new - both
68	H	2						ok				S	new - both
69	F	2						ok				S	mod - both
70	FH	2						ok				US	mod - both station says "higher" [analysis is required - higher is correct]

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. U/E/S	6. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward		
71	H	3						ok				S	new - both
72	H	2						ok				S	bank - both
73	H	2						ok				S	mod - both
74	H	2						ok				S	new - both
75	H	3						ok				S	new - R12
76	F	2						ok				S	bank - both
77	FH	2						ok				US	bank - both station says "higher" consider putting stem in past tense [analysis required because of surveillance, higher is correct. changed tense]
78	F	2						ok				S	new - R13
79	F	2						ok				E	new - R14 consider putting stem in past tense [changed to past tense]
80	F	2						ok				S	new - R15
81	F	2						ok				S	new - both
82	H	3						ok				E	new - both see if font supports inch marks, if not, type "inch" [corrected]
83	H	3						ok				S	new - R16
84	F	2						ok				U	new - R17 station says "higher" [station agrees "lower"]
85	F	2						ok				S	bank - both
86	F	2						ok				S	new - R18
87	F	2						ok				U	new - R19 station says "higher" [station agrees "lower"]
88	H	3						ok				S	mod - both
89	H	2						ok				S	new - both
90	F	2						ok				E	new - R20 add the word "to" where indicated in distractor a. [added]

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. U/E/S	6. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward		
91	F	3						ok				U	new - both Is this required to be memorized? <i>[not required to be memorized - question replaced.]</i>
92	F	3						ok				US	new - both Is this required to be memorized? <i>[yes]</i>
93	F	2						ok				S	new - R21
94	F	2						ok				S	mod - R22
95	FH	2						ok				U	new - both Is this system knowledge or procedure steps? <i>[integrated system understanding - changed to "higher"]</i>
96	H	3						ok				S	new - R23
97	F	2						ok				S	new - R24
98	F	3						ok				S	new - both
99	F	3						ok				S	new - R25
100	F	2						ok				S	mod - both
101	H	3						ok				S	new - sro
102	H	3						ok				S	bank - sro
103	H	2						ok				S	new - sro
104	F	2						ok				U	bank - sro Recall tech spec <1hr. not required replace/rewrite <i>[tests 1 hour tech spec. facility will replace.]</i>
105	H	2						ok				S	bank - sro
106	H	3						ok				S	new - sro
107	F	2						ok				ES	new - sro delete the consequence from distractor a. <i>[leave the consequence to balance a. with other distractors.]</i>
108	H	3						ok				S	new - sro
109	H	2						ok				U	new - sro station classified as "lower" <i>[calculation is required - changed to "higher"]</i>
110	F	2						ok				S	mod - sro

[illegible]

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 6	295006	AA1.01	4.2/4.2	BOTH	049.00.14	2

The plant is operating at 100% power, when a spurious signal causes a scram signal on RPS channel 'A' ONLY.

Which of the following responses correctly completes the following:

The 'A' scram pilot solenoid valves (117's) are:

- A. Energized
- B. Energized
- C. DE-energized
- D. DE-energized

The 'B' scram pilot solenoid valves (118's) are:

- Energized
- DE-energized
- Energized
- DE-energized

Answer:

C

Reference(s):

RPS, LP 49, Rev 0, pg. 13

Question Reference(s):

049.00.14 001

Explanation: RPS 'A' powers the 'A' scram pilot solenoids, and the scram pilot solenoids are de-energized on a trip. The 'B' scram pilot solenoid valves are unaffected by the 'A' RPS System.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 7	295007	AK2.01	3.5/3.7	BOTH	074.00.05	

2

Unit 1 conditions are as follows:

- Rx power: 28 %
- T-G Load: 365 MWE
- Load Set 390 MWE
- Bypass position: 0 %

The operator withdraws a control rod which increases Rx power to 29 %.

Which of the following describe the expected response of the Turbine EHC Control System?

- A. The Bypass Valves will open by whatever amount is required to maintain RX pressure.
- B. The Turbine Control Valves will open by whatever amount is required to maintain RX pressure.
- C. The Bypass Valves will close by whatever amount is required to maintain RX pressure.
- D. The Turbine Control Valves will close by whatever amount is required to maintain RX pressure.

Answer:

Reference(s):

Question Reference(s):

B

EHC Elec, LP 74, Rev 1, pg.4 & 5

INPO EB No. 762

Explanation: Load demand is greater than current load. As reactor power increases, turbine control valves will open to offset the increased steam production.

c & d are not plausible distractors. bypass valves are given to be shut, TCVs don't close when Rx power ↑.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 13	295014	AK1.01	3.7/3.8	BOTH	769.00.01	2

Unit 2 is starting up with the following conditions:

- Coolant temperature is 165°F.

Which of the following describes expected crew response if the reactor were to become prompt critical at this time?

The crew would . . .

- A. Ensure the reactor has scrammed and power has turned.
- B. Insert the last one or two control rods withdrawn to turn reactor power.
- C. Wait for Alpha-T to turn reactor power before withdrawing any more control rods.
- D. Wait for Alpha-V to turn reactor power before withdrawing any more control rods.

Answer:

Reference(s):

Question Reference(s):

A

Rx Theory

New

Explanation: Prompt criticality would cause a reactor scram (as the IRMs reached scram setpoint) due to the very short reactor period.

Question is improbable - too many thing would have to happen to cause this. Recommend deselect, then replace.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 14	295015	AK1.02	3.9/4.1	BOTH	400.00.14	1

During an ATWS, the operator is directed NOT to cool down until the reactor is shutdown without boron injection or the cold shutdown weight of boron has been injected.

The reason for this requirement is ...

- A. Positive reactivity will be added due to the water in the reactor being cooler and more dense.
- B. Core flow may become restricted due to the cooler water causing the boron to come out of solution and deposit on core surfaces.
- C. Higher reactor pressure helps mixing of the boron due to the higher steaming rates and minimizes the time to complete the shutdown.
- D. Lowering reactor pressure would cause the water in the reactor to "swell", thus lowering the boiling boundary and increase the chance to damage fuel.

Answer:

Reference(s):

Question Reference(s):

A

LP LGA010, pg.14

LaSalle 9501 ILT Exam Question #119

Explanation: Boron plating on core surfaces is not a threat to adequate core flow. Elevated reactor pressure does not improve boron mixing. RPV "level swell" is not considered to impact core cooling.

The correct answer does not reflect what's going on in the reactor - needs to be reworded to be clearer.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 19	295020	AK1.02	3.5/3.8	BOTH	023.00.16	2

Unit 1 is at 80% power.

A Group II isolation was caused by an invalid signal.

The Unit Supervisor directs a 10% power reduction to reduce the containment heat load.

Which of the following describes the method(s), if any, AVAILABLE to the Unit NSO to reduce reactor power by only 10%?

- A. Control rod insertion only.
- B. Flow control valve closure only.
- C. Both flow control valve closure and control rod insertion.
- D. Neither flow control valve closure nor control rod insertion.

Answer:

Reference(s):

Question Reference(s):

A

RRFC, LP 23, Rev 1, pg. 32

New

Explanation: One of the results of a Group II isolation is the isolation of the RR FCV hydraulic lines. This prevents RR FCV motion. There would be no restriction to control rod insertion. Only Answer A meets these conditions.

suggested
d. There is no method available under these plant conditions to reduce reactor power by 10% only.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 20	295020	AK3.02	3.3/3.5	BOTH	090.00.05	1

Unit 2 is at 100% power.

Group 1 AND Group 10 isolations ^{WCC} are caused by an instrument failure.

The failure requires extended operation aligned to the backup instrument air supply.

The operators should monitor . . .

- A. Drywell pressure because instrument air is less dense than nitrogen and drywell pressure may go negative.
- B. Drywell oxygen concentration because use of drywell pneumatics or leaks in drywell pneumatic piping could raise oxygen levels.
- C. IN Receiver pressure because low receiver pressure would be a predictor of inboard MSIV closure.
- D. Bottle bank pressures because the bottles may depressurize due to leaks in 100 psig header piping.

Answer:

Reference(s):

Question Reference(s):

B

LOA-IN-201, Rev1 pg.12

New

Explanation: As referenced in LOA-IN-201, Continued use ^{of} Instrument Air to supply the Drywell Pneumatic System will gradually increase the Primary Containment atmosphere oxygen content and pressure. Bottle banks do not supply regulated head piping so leaks would not be a factor. The IA cross tie is after the IN receiver so it would not predict a loss of pressure.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 22	295023	AK2.07	3.6/3.9	BOTH	095.00.01	1

During Unit-2 core reload, a fuel bundle ^{was} inadvertently dropped while attempting to place it in the core.

Bubbles ^{were} observed rising from the area of the dropped bundle.

Alarms ^{are} received for:

- Div I and II Fuel Pool Ventilation Radiation (PRM reading 23 mr/hr)
- Refuel Floor Area High Radiation (ARM reading 1200 mr/hr)
- Reactor Building Overhead Crane Area Radiation Monitor (reading 250 mr/hr)

The operators should verify the . . .

- A. Control Room Ventilation System automatically shifts to "purge" and VC/VE Emergency Makeup train starts.
- B. Reactor Building Overhead Crane down motion stopped and automatically moves to South end of the refuel floor.
- C. Fuel grapple automatically retracts to the "full up" position and Refuel Bridge moves to South end of refuel floor.
- D. Reactor Building Ventilation System isolates and Standby Gas Treatment System auto starts.

Answer:

Reference(s):

Question Reference(s):

D

LOP-VG-01, Rev 8. pg. 2

New

LOA-FH-001, Rev 0., pg. 3,5

Explanation: VC/VE have no automatic actions on FC rad or ARMs. Overhead crane upward movement, not lateral movement is halted. Fuel grapple and bridge have no automatic actions on FC rad or ARMs.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive
# 26	295030	EK1.03	3.8/4.1	BOTH	421.00.04	Level:
						2

Which of the following conditions violates the Heat Capacity Temperature Limit Curve?

Provide Detail M from LGA-003 Heat Capacity Temperature Limit

	Suppression Pool Level	Suppression Pool Temperature	Reactor Pressure
A.	0 ft	180°F	300 psig
B.	0 ft	200°F	500 psig
C.	-10 ft	170°F	700 psig
D.	-10 ft	190°F	600 psig

Answer:

Reference(s):

Question Reference(s):

D

LGA-003 Rev 0

New

Explanation: Only D will violate the HCTL. A & C are below both curves. B is below the NORMAL pool level curve.

RO Task?

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 27	295032	EA1.05	3.7/3.9	BOTH	418.00.02	3

Unit 2 was at rated conditions.

The operators noted Main Steam Line Tunnel temperature had increased to 165°F.

The crew:

- Scrammed the reactor
- Closed all MSIVs and MSL drains.
- Closed the Feedwater Line Outboard Isolation Valves
- Started RCIC in level control mode.

The STA reports ^{ed} that tunnel temperature is NOT decreasing.

The Radwaste operator reports ^{ed} that the Aux. Bldg Floor Drain Sump ODA01 is pumping down continuously.

Which of the following actions should be taken?

- A. Cooldown at greater than 100°F/hr to reduce pressure boundary leakage.
- B. Reset the reactor scram to stop potential leakage into the Steam Tunnel.
- C. Shutdown and isolate RCIC to stop potential leakage into the Steam Tunnel.
- D. Shutdown and isolate RWCU to stop potential leakage into the Steam Tunnel.

Answer:

Reference(s):

Question Reference(s):

D

LGA-002 Rev 00

New

Explanation: RWCU returns to the vessel via the feedwater line in the steam tunnel. RCIC and CRD could not discharge into this area. No area temperatures are above Max safe so exceeding 100°F/hr is not allowed by the EOPs.

RO task?

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 35	600000	AK3.04	2.8/3.4	BOTH	125.00.20	1

Which of the following identifies the individual(s) and location to which they should be dispatched in response to a Unit 1 Red NON-CO2 fire panel alarm?

- | | <u>Individual(s)</u> | <u>Location</u> |
|----|----------------------|----------------------------|
| A. | fire brigade | affected area |
| B. | operator | Turbine Building Fire Cage |
| C. | operator | affected area |
| D. | fire brigade | Turbine Building Fire Cage |

Answer:	Reference(s):	Question Reference(s):
D	LOA-FP-101, Rev 3, pg.6 & 51	125.02.20 001 (modified)

Explanation: Only Answer D meets the requirements of LOA-FP-101.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 38	202002	K2.02	2.6/2.6	BOTH	023.00.16	1

2?

Given that a Backup Subloop is available, which of the following conditions will cause the reactor recirc hydraulic system to be shutdown with the FCV hydraulically locked in position?

- A. Loss of Control Signal to the Servo Controller
- B. Loss of pump outlet pressure
- C. Loss of DC power
- D. Low Low Reservoir Level

Answer:

Reference(s):

Question Reference(s):

C

LOP-RR-03, Rev 8, pg.5

New

Explanation: Only a loss of DC power will result in a direct HPU shutdown and FCV lockup. The distracters listed will cause a transfer to the backup subloop.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 40	203000	A2.17	3.3/3.3	BOTH	064.00.21	1

Immediately following exercising of a 1A RHR system valve for post maintenance testing, a low pressure alarm ^{was} (is) received for the 1A RHR system.

With respect to the 1A RHR system, which of the following actions is appropriate?

- A. The crew should wait until the water leg pump restores system pressure and should make an entry in the unit log that the alarm was received and subsequently cleared.
- B. The crew should verify the water leg pump restores system pressure and should send an operator to check the high point vent to verify piping filled and vented.
- C. The crew should verify the 1A RHR pump is still operable by running it per the applicable portions of the quarterly surveillance.
- D. The crew should lineup the CY fill system to the 1A RHR injection line piping and keep *the* system in this configuration until the water leg pump can be repaired.

Answer:

Reference(s):

Question Reference(s):

B

LOS-RH-Q2, Rev 30, pg.4

New

Explanation: Per the reference procedure, if a LPCI low pressure alarm annunciates while exercising valves, system, shall be vented per applicable steps of LOS-RH-M1 to verify discharge piping to injection valve is filled.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 44	209001	A1.03	3.8/3.9	BOTH	063.00.05	2

Unit 1 was operating at 100% reactor power when a LOCA occurred^{ed} resulting in the following:

- The reactor has scrammed
- RPV pressure is 480 psig
- RPV level is -140 inches
- HPCS and RCIC are injecting to the RPV

Based on these conditions, the LPCS pump is _____ (1) _____ and the LPCS injection line check valve is _____ (2) _____.

- | | |
|--------------------|------------|
| A. (1) not running | (2) closed |
| B. (1) not running | (2) open |
| C. (1) running | (2) closed |
| D. (1) running | (2) open |

Answer:

Reference(s):

Question Reference(s):

C

LaSalle UFSAR Section 7.3.1.2.3.6
LaSalle Systems Description Manual,
Chapter 63, Low Pressure Core Spray
System

From LaSalle ILT Systems Questions
Bank Objective No. SYS-38-06B

Explanation: LPCS will initiate and pump will start when RPV level is < -129 inches. The injection check valve will not open until RPV pressure falls below pump shutoff head of 440 psig.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 47	211000	K3.02	3.0	RO	028.00.18	2

A manufacturing defect ^{has caused} provides a flow path between the outer tube of the SBLC injection line and the bottom head area. **Provide Figure 28-08 w/o labels.**

Which of the following describes the consequences of this failure?

- A. RWCU Bottom Head Drain Flow indication would be inaccurate.
- B. CRD Drive Water flow indication would fail downscale.
- C. SBLC solution will not inject into the proper vessel area.
- D. HPCS Line Break detection would be unavailable.

Answer:

Reference(s):

Question Reference(s):

D

SBLC LP pg.18-19

New

Explanation: HPCS line break detection utilizes the outer tube of the injection line. A failure in the line would cause a failure of the detection. RT bottom head drain flow would still be accurate since it utilizes the inner tube pressure for its input. SBLC solution is injected through the inner tube and would not be affected. CRD drive water flow may be slightly (less than a 10% change) inaccurate but would not fail downscale as the change in pressure sensed would only be the dP across the core plate.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 49	212000	K4.02	3.5/3.7	BOTH	049.00.14	

2 - 1?

Unit 2 is starting up.

Which of the following would occur if the 'A' IRM were to fail upscale?

RPS will generate. . .

- A. a half scram due to the shorting links being installed.
- B. a full scram due to the shorting links being installed.
- C. a half scram due to the shorting links being removed.
- D. a full scram due to the shorting links being removed.

Answer:

Reference(s):

Question Reference(s):

A

RPS Lesson Plan pg.26 & 35

New

Explanation: RPS will generate a half scram only. The shorting links are normally installed. Removal of the shorting links would cause RPS to generate a full scram.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 51	215002	K2.03	2.8/2.9	BOTH	045.00.16	

② 1 2

Which of the following identifies the APRM channel and its power supply that can provide a reference power input to the 'A' RBM?

	<u>APRM Channel</u>	<u>Power Supply</u>
A.	A	A RPS
B.	E	A RPS
C.	A	111Y
D.	E	111Y

Answer:

Reference(s):

Question Reference(s):

B **RBM LP pg.32; APRM LP pp22**

New

Explanation: RBM reference inputs are from APRM C or E (if C is bypassed). APRM E is powered from RPS Bus 'A'.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 54	215003	2.2.22	3.4	RO	042.00.22	2

Unit 1 is in Operational Condition 3.

An explosion occurs in the 1A 24/48 VDC battery that results in a loss of power to the distribution panel.

Which of the following Technical Specifications LCOs is affected?

- A. 3.3.1 Reactor Protection System Instrumentation
- B. 3.3.5 Reactor Core Isolation Cooling System Actuation Instrumentation
- C. 3.8.2.3 D.C. Distribution – Operating
- D. 3.8.2.4 D.C. Distribution – Shutdown

Answer:

Reference(s):

Question Reference(s):

A

Technical Specification 3.3.1

New

Explanation: The 1A 24/48 VDC batteries provide power to the A, C, E, & G IRMs. With the power supply gone, the IRMs would need to be declared inoperable and T.S. 3.3.1 LCO would not be met. The 1A 24/48 VDC batteries do not supply RCIC actuation instrumentation. T.S. 3.8.2.3 and 3.8.2.4 only address 250 VDC and 125 VDC distribution. RCIC was chosen as a distracter because of its reliance on DC power.

No Task ?

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 58	216000	A3.01	3.4/3.4	BOTH	040.00.05	3

Unit 1 is scrambled with the following conditions:

- Feedwater flow has been lost.
- Drywell pressure is 2.5 psig.
- Reactor water level is stable.
- Wide Range Level instruments are indicating -120 inches.
- Fuel Zone Level instruments are indicating -194 inches.
- Reactor pressure is 510 psig and decreasing at 220 psig/hr.
- 'A' and 'B' RHR are aligned for containment cooling.

When possible, 'A' and 'B' RHR should be . . .

- A. aligned for LPCI injection because adequate core cooling is NOT assured.
- B. aligned for LPCI injection because initiation conditions have been met.
- C. left in containment cooling because adequate core cooling is assured.
- D. left in containment cooling because initiation conditions have NOT been met.

Answer:

Reference(s):

Question Reference(s):

C

LPGP-PSTG-01S08, Rev1, pg. 10
LGA-001, Rev 0

New

Explanation: Fuel zone indication can read up to 115 inches lower than actual level due to calibration. As such, Wide Range instrument should be used instead of an uncorrected Fuel Zone. Top of Active Fuel is -161". Initiating conditions for LPCI have been met with drywell pressure >1.69 psig.

RO Task?

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive
# 61	223002	K6.06	2.8/2.9	BOTH	096.00.12	Level:
						2

Unit 2 is in STARTUP with the following conditions:

- Reactor pressure is 150 psig.
- RWCU blowdown is open 25% to maintain level during the heatup.

The disk of the RBCCW inlet valve to the in-service non regenerative heat exchanger fails, stopping flow.

Which one of the following describes the direct response of the listed valves to this failure?

	RWCU Inboard Isolation Valve <u>2G33-F001</u>	RWCU Outboard Isolation Valve <u>2G33-F004</u>	RWCU Blowdown Header Control Valve <u>2G33-F033</u>
A.	Remains Open	Remains Open	Closes
B.	Remains Open	Closes	Remains Open
C.	Closes	Remains Open	Closes
D.	Closes	Closes	Remains Open

Answer:

Reference(s):

Question Reference(s):

B

RWCU LP pg. 22

027.00.21 001 (Significantly modified)

Explanation: With a loss of RBCCW flow to the non-regenerative heat exchanger (NRHX), outlet temperature will increase. NRHX high outlet temperature will close the Outboard isolation valve.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 63	230000	K1.05	3.2	RO	064.00.05	3

Unit 1 is scrambled due to a LOCA with the following conditions:

- Containment pressure 5 psig
- Reactor pressure 250 psig
- '1A' RHR is aligned for Suppression Chamber Spray and Suppression Pool Cooling (a grid transient causes a loss of off-site power.)

new bullet

How will the RHR Test To Suppression Pool valve and the Suppression Chamber Spray Isolation valve respond if 141Y is re-energized?

	RHR Test To Suppression Pool Valve <u>1E12-F024A</u>	Suppression Chamber Spray Isolation Valve <u>1E12-F027A</u>
A.	Closes	Closes
B.	Remains Open	Closes
C.	Closes	Remains Open
D.	Remains Open	Remains Open

Answer:

Reference(s):

Question Reference(s):

D

RHR LP

New

Explanation: Since initiation logic did not clear, nor did the logic power become de-energized, the valves will remain in their present position until manually closed.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:
# 70	259001	K5.03	2.8/2.8	BOTH	077.00.05

Cognitive
Level:

2 — 1 ?

Unit 2 is at 20% Reactor Power conducting a normal Unit Startup.

- The MDRFP is not running.
- One Turbine Driven Reactor Feedwater Pump (TDRFP) is in automatic controlling reactor water level.
- The main turbine is on the line with all of the turbine bypass valves closed.
- The main turbine unexpectedly trips.

The TDRFP High Pressure control valve will

- A. CLOSE due to the increasing reactor pressure
- B. OPEN due to the loss of low pressure steam supply.
- C. OPEN due to the increased steam flow through the bypass valves.
- D. CLOSE due to the decreased low pressure steam flow without the main turbine running.

Answer:

Reference(s):

Question Reference(s):

B

FW LP pp 14

77.00.14 001 (modified)

Explanation:

As a result of the loss of the LP steam supply (Crossover Steam), the TDRFP control valve must open to allow HP Steam to maintain the demanded TDRFP Speed.

Reactor pressure should remain not increase since reactor power is within the capacity of the BPVs.

The amount of Bypass Valve steam flow has no effect on the demanded position of the TDRFP control valve.

With the loss of LP Steam, the TDRPF Control valve must Open to maintain the demanded TDRFP speed .

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 77	264000	K1.04	3.2/3.3	BOTH	011.00.21	2

The 1A DG Cooling Water pump ^{tripped} trips while the 1A DG is running under load for a surveillance. Assuming no operator action, which of the following describes the expected impact on continued 1A DG operation?

- A. The 1A DG will trip on high cooling water temperature.
- B. The pump trip will directly actuate the DG lockout which will trip the 1A DG.
- C. The 1A DG will continue to heat up and eventually fail with possible damage due to lack of cooling.
- D. The 1A DG governor will runback the load limiter to 10%, which is within the DG's cooling capacity.

Answer:

A

Reference(s):

LOP-DG-01 Rev 25 pg. 5

Question Reference(s):

011.00.21 004

(slightly modified)

Explanation: With no ECCS signal present, the DG will heat up and trip on high cooling water temperature of 208 degrees F. There is no direct trip or runback associated with the cooling water pump.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 79	271000	A4.01	2.8	RO	080.00.12	

1

Unit 2 is at rated conditions.

The flow switch for the OG 2nd Stage Steam Flow failed^{ed} resulting in an OG isolation.

The NSO ~~has~~ verified the isolation signal ^{was} invalid.

Which of the following describes the action necessary to re-open the valves that closed?

- A. De-energize the valve's motor operator and open the valves manually.
- B. Place the control switches for the affected valves in the OPEN position.
- C. Turn the Low-Flow keylock bypass switch to BYPASS.
- D. Place the control switches for the affected valves in the BYPASS position.

Answer:

Reference(s):

Question Reference(s):

B

**OG LP pg.21
LOA-OG-101 Rev 1**

New

Explanation: On low 2nd Stage Steam flow, the 1N62-F300A/B will close. Placing the control switches in the OPEN position bypasses the low flow interlock and allows the valve to open. The valves are air operated. There is no keylock bypass switch. The BYPASS position is on the OG charcoal adsorber train control switch not the 1N62-F300A/Bs.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 82	288000	K1.06	2.7/2.7	BOTH	118.00.16	

2

Unit 2 is in Run with the following conditions:

- Reactor Building Exhaust Air Flow has increased.
- Reactor Building to Outside Differential Pressure is ~~-0.7~~ ^{// or 1.0} WC and getting more negative. (the pointer is moving toward the bottom of the meter).
- '2A' and '2B' VR Supply fans are running.
- '2A' and '2B' VR Exhaust fans are running.

Which of the following identifies the potential cause of this event?

Loss of Instrument Air pressure to the . . .

- A. Supply Duct Isolation Dampers
- B. Exhaust Duct Isolation Dampers
- C. Exhaust Air Flow Control Dampers
- D. Supply Fan Check Dampers

Answer:

Reference(s):

Question Reference(s):

C

VR LP pg.9, 16, 17, 31

New

Explanation: On loss of air, the air modulating dampers, 2VR07YA/B/C/D, fail open. With the 2VR07YA/B/C/D dampers failing open, the running exhaust fans flow would increase. The exhaust fans design flow is 400 cfm more than the supply fans. The Supply Fan Check Dampers are not supplied by IA. The isolation dampers, 2VR04YA/B and 2VR05YA/B, fail closed on loss of IA. Closure of any isolation damper would cause a trip of the associated fans.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 84	290002	K4.01	3.7	RO	020.00.01	2 - 1 ?

Unit 1 is in Run with the following conditions:

- The plant is operating at 40% power
- The Jet Pump operability surveillance indicates that one jet pump has failed
- Technical Specifications require the plant to be in hot shutdown within 12 hours

Which of the following describes why such a severe restriction is placed on continued operation for the given conditions?

- A. A jet pump failure at this low power level will significantly affect the core flows and result in unacceptable thermal limits (MCPR).
- B. A jet pump failure may limit reactor water level restoration capability during the reflood portion of a Loss Of Coolant Accident.
- C. A jet pump failure combined with the flow restricting orifices may adversely affect core flow to the higher power fuel bundles.
- D. A jet pump failure results in less conservative protective action setpoints for instrumentation using recirculation loop flow as an input signal.

Answer:

Reference(s):

Question Reference(s):

B

LaSalle UFSAR, App G.3.2.2.3

Hope Creek 2/98 NRC exam

Explanation: Design bases: jet pump integrity is required to maintain a refloodable volume.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 87	300000	A2.01	2.9	RO	120.00.21	

(2) 1 ?

A transient has resulted in a loss of power to the in-service station air dryer, 0SA02D.

Which of the following describes the air dryer's response to the loss of power?

- A. both towers will be placed in service.
- B. both towers will be isolated.
- C. the towers will remain in the condition they were in when power was lost.
- D. the tower bypass automatically opens.

Answer:

Reference(s):

Question Reference(s):

A

IA/SA LP pg.11

New

Explanation: On loss of power to the dryer, BOTH towers are placed in service providing dry compressed air for about four hours.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 90	GENERIC	2.1.21	3.1	RO	769.00.01	1

You are getting ready to perform a task and have just copied the procedure you are going to use from the Work Execution Center.

You are . . . *to*

- A. allowed proceed as long as the copy is the same revision as the one listed in the procedure index on the Intranet.
- B. allowed to proceed as the copy you have should be the current revision.
- C. required to compare the procedure revision with the one in the Control Room BEFORE proceeding.
- D. required to compare the procedure revision with the one listed in EWCS BEFORE proceeding.

Answer:

Reference(s):

Question Reference(s):

B

AD-AA-104-101, Rev 0, pg.2

New

LAP-820-2T, Rev 20, pg.4

Explanation: The WEC is one of the locations that is an Authorized set. No further verification is required.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 91	GENERIC	2.2.12	3.0/3.4	BOTH	032.00.20	1

The Plant Supervisor has ordered you to perform a RCIC operability test following maintenance using LOS-RI-Q3, Reactor Core Isolation Cooling (RCIC) System Pump Operability and Valve Inservice Tests In Conditions 1, 2, and 3.

LOS-RI-Q3 requires the performance of ?

- A. Chemistry analysis on the Suppression Pool water.
- B. Suppression Pool Temperature Monitoring Checks.
- C. RCIC Monthly Valve Operability on the RCIC Exhaust Rupture Diaphragm.
- D. Remote Shutdown Panel Post Accident Instrumentation Operability Checks.

Answer:

Reference(s):

Question Reference(s):

B

LOS-RI-Q3 Rev 31

INPO Q No.821

Explanation: With RCIC System adding heat to the Suppression Pool, Suppression Pool temperatures must be verified less than or equal to 105°F at least once per 5 minutes and documented in LOS-AA-S101[201], Att G.

Required to be memorized?

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 92	GENERIC	2.2.28	2.6/3.5	BOTH	30.077	1

Unit 1 is in a refueling outage.

A single fuel bundle is being loaded into the core.

The signal-to-noise ratio is 15 to 1.

The MINIMUM count rate to verify the required SRMs operable is ____ counts per second.

- A. 0.7
- B. 1.0
- C. 2.0
- D. 3.0

Answer:

Reference(s):

Question Reference(s):

D

LFS-100-4, Rev 16, pg. 12

New

Explanation: With the signal-noise-ratio less than 20 to 1, the minimum count rate is 3 CPS.

Required to be memorized?

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:
# 95	GENERIC	2.3.9	2.5/3.4	BOTH	93.00.20

Cognitive
Level:

1

2?

Which of the following must be in service prior to performing a containment purge when the unit is at power?

- A. MCR AND AEER Emergency Makeup Trains
- B. ONLY the MCR Emergency Makeup Train
- C. MCR AND AEER Recirculation Charcoal Filter Units
- D. ONLY the MCR Recirculation Charcoal Filter Unit

Answer:

Reference(s):

Question Reference(s):

C

LOP-VQ-04, Rev 12, Pg. 34

New

Explanation: If the unit is in OC 1,2, or 3, BOTH MCR and AEER Recirculation Charcoal Filters are to be verified in service prior to purging the drywell.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 104	262001	2.1.11	3.8	SRO	005.00.24	

1

- Unit 1 startup is in progress after a short outage to repair a leak inside the drywell.
- Reactor power is currently 7% with the mode switch in STARTUP and containment inerting in progress.
- Shift plans are to continue the power ascension and transfer the mode switch to RUN.
- A report is received that the drywell lighting circuits are energized.

The lighting circuits must be deenergized...

- A. within 1 hour.
- B. prior to placing the mode switch to RUN.
- C. within 1 hour after placing the mode switch to RUN.
- D. before drywell oxygen concentration is less than 16%.

Answer:

Reference(s):

Question Reference(s):

A

LP05 Section VII.A. and T.S. 3.8.3.1

005.00.24 002

Explanation: This question tests the students ability to RECALL one-hour or less T.S. Do Not use this question on exams where Technical Specifications are given as a reference.

Technical Specification 3.8.3.1 requires that during Operational Conditions 1, 2, and 3 the drywell lighting circuits be deenergized. The action statement requires that if the circuits are energized they be deenergized within 1 hour. Answer A is correct as it identifies this 1 hour requirement. Answer B is incorrect because even in mode 2 the circuit must be deenergized within one hour. Answer C is incorrect because the 1 hour clock starts now not when the mode switch is transferred to RUN. Answer D is incorrect because the circuit must be deenergized within 1 hour irrespective of the drywell oxygen concentration.

1 Hr Tech spec recollection - not required, replace

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 107	GENERIC	2.4.11	3.6	SRO	24.048	1

Unit two is at 50% power

- A high-high level in the 23A heater has occurred
- The NSO reports that feedwater temperature has decreased by ten degrees.
- The Assist NSO reports:
 - the associated Extraction Steam Inlet have failed to close.
 - the associated Extraction Non-Return valves have failed to close.
- The NSO scrams the reactor and trips the Main Turbine.

The NSO's actions were...

- None of the other distractors have consequences.*
- A. CORRECT to prevent possible backflow of water into the main turbine ~~causing damage.~~ *e*
 - B. CORRECT to prevent possible fuel damage ~~due to the decreasing feedwater temperature.~~ *e*
 - C. INCORRECT without first checking the minimum feedwater temperature for the current power.
 - D. INCORRECT without first attempting a manual isolation of the valves.

Answer:

Reference(s):

Question Reference(s):

A

LOA-HD-201 Rev 3, pg.10 & 14

New

Explanation: A high-high level in the heater should close the ES isolation and non-return check valve. Failure of both to close could result in water induction into the turbine. Actions are taken to prevent turbine damage.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 109	GENERIC	2.1.33	4.0	SRO	022.00.22	1 → ?

Unit 1 is in Run with recirculation loop flow mismatch of 3000 gpm

Which of the following is the MAXIMUM percentage of core flow that is allowed to exist WITHOUT entering a Technical Specification Action statement?

- A. 64%
- B. 69%
- C. 74%
- D. 79%

Answer:

Reference(s):

Question Reference(s):

B

Tech Spec 3.4.1.3, pg.3/4 4-3

New

LOA-RR-101, Rev5, pg. 15

Explanation: Recirc loop flow mismatch must be within 5% (2360 gpm) of rated loop flow if core flow is greater than or equal to 70% rated core flow (76 Mlbm/hr) and within 10% (4720 gpm) of rated loop flow if core flow is less than 70% rated core flow (76 Mlbm/hr). With a loop flow mismatch of 3000 gpm, the maximum core flow that could be achieved is 70 %.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 114	201001	2.1.11	3.8	SRO	774.010	1

2?

With the plant at rated power, Control Rod Accumulator Trouble alarms are received for two fully-withdrawn Control Rods within one minute.

Investigation revealed that the alarms are both due to low accumulator pressures.

The operators must ...

- A. declare BOTH control rods inoperable AND immediately verify one CRD pump is operating OR place the mode switch in SHUTDOWN due to the indication of a systemic problem with the drive mechanisms.
- B. declare BOTH control rods inoperable AND immediately verify one CRD pump is operating OR place the mode switch in SHUTDOWN to insure sufficient negative reactivity insertion on a scram.
- C. insert and electrically disarm one control rod within one hour OR be in at least HOT SHUTDOWN within 12 hours due to the indication of a systemic problem with the drive mechanisms.
- D. insert and electrically disarm one control rod within one hour OR be in at least HOT SHUTDOWN within 12 hours to insure sufficient negative reactivity insertion on a scram.

Answer:

Reference(s):

Question Reference(s):

B **Tech Specs 3.1.3.5., ACTION a.2.(a.
AND Bases 3/4.1.3, pg.B 3/4 1-3.**

025.00.24 001 (Modified)

Explanation: Answer B is correct. 'A' is incorrect because the shutdown margin license requirement is not met by placing the mode switch in shutdown. 'C' and 'D' are incorrect because Tech Specs do NOT allow one hour to insert the control rod.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 117	GENERIC	2.2.18	3.6	SRO	660.02	1

Unit 2 is shutdown.

While returning the '2A' RHR pump to service, the control power fuse for the breaker can not be located.

The preferred method for determining a replacement fuse is by using the . . .

- A. Placards placed near the fuse.
- B. Vendor manuals.
- C. EWCS Data Panels.
- D. Station fuse list.

Answer:

C

Reference(s):

CC-AA-206 Rev 0 pg.4

Question Reference(s):

Dresden 1997 ILT exam

Explanation: Per the reference, EWCS is the controlling database for fuses that are shown on station drawings and that have EPN numbers assigned. The other answers were chosen as plausible distracters. Answers B and D have been correct in older procedures before the computer screen was available.

LaSalle County Station
ILT Class 1999 NRC Written Exam

Q_ID	System:	K/A:	Importance	Exam:	Objective:	Cognitive Level:
# 122	GENERIC	2.2.7	3.2	SRO		1

2?

Unit 2 is in a refueling outage.

It is a weekend.

A new system engineer has requested that the Unit 2 HPCS pump be started with the full flow test valve throttled to 75% open to determine starting current.

The evolution is not described in current procedures or the Safety Analysis Report.

Which of the following would describes the correct response to the request?

The Shift Manager may . . .

- A. approve the evolution without restrictions.
- B. only approve the test if another SRO with an engineering degree agrees.
- C. not approve the test until a written safety evaluation has been performed and approved.
- D. not approve the test under any conditions.

Answer:

Reference(s):

Question Reference(s):

C

RS-AA-104, Rev 0, pg.5

New

Explanation: 10CFR50.59 specifies that a written safety evaluation be performed where a licensee plans to conduct tests or experiments not described in the Safety Analysis Report.

Recirc pump flow charts were considered a bad distractor since the sums of flow for pump B did not average 39000. Fix or delete the charts.

ComEd

A Unicom Company

Nuclear Generation Group

Job Performance Measure

Review and Determine if Jet Pump Flow Meets Required Flow

JPM Number: ADM-A.1-1-RO

Revision Number: 02

Date: 08/01/2000

Developed By:

[Signature]

Instructor

8-11-00

Date

Approved By:

[Signature]

Operations Representative

8-11-00

Date

Job Performance Measure (JPM)**INITIAL CONDITIONS**

- Unit 1 is near rated conditions.
- It is a normal working day.
- You are the Shift Manager.
- Reactor Water Cleanup was being returned to service following maintenance.
- The RWCU inlet isolation valves (1G33-F004 and 1G33-F001) isolated on High Flow immediately upon opening.
- The valves were opened in accordance with LOP-RT-02.
- A plant operator reported that the A RWCU Non Regenerative Hx Tube Side Relief Valve, 1G33-F341A, appears to be stuck open.
- The SOS ~~has agreed that the event is reportable under SAF 1.12 as a 4 hour ENS notification to the NRC.~~

INITIATING CUE

The Shift Operating Superintendent has directed you to determine the station and corporate communication requirements, if any, of this event.

Inform the Shift Operating Superintendent when you have completed your determination.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

.....

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes CRITICAL steps.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section at the bottom of the page. The comment section should be used to document the reason that a step is marked as unsatisfactory and to document unsatisfactory performance relating to management expectations.

The timeclock starts when the candidate acknowledges the initiating cue.

.....

needed the way it is

is this required for the JPM to go in the right direction?

Need answer key
(NARS form)



A Unicom Company

Nuclear Generation Group

Job Performance Measure

Determine EAL and PARS

JPM Number: ADM-A.4-SRO

Revision Number: 01

Date: 07/27/00

Developed By:

A handwritten signature in black ink, appearing to read "D. Smith", written over a horizontal line.

Instructor

8-11-00

Date

Approved By:

A handwritten signature in black ink, appearing to read "R. Smith", written over a horizontal line.

Operations Representative

8-11-00

Date

Job Performance Measure (JPM)

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
	<p>CUE: As an IM, voltages for: 1A TDRFP control unit 1C34R601A-1 and manual unit 1C34R601A-2 are equal, and voltages for: 1B TDRFP control unit 1C34R601B-1 and manual unit 1C34R601B-2.</p> <p>Note: The TDRFP M/A stations may be placed in manual in any order.</p>	<p><i>also here</i></p>			
*7.	DEPRESS MANUAL on M/A XFR STA to be transferred.	Candidate depresses MANUAL on 1A (1B) TDRFP M/A transfer station.	—	—	—
8.	VERIFY level is stable.	Candidate verifies reactor water level is stable.	—	—	—
*9.	DEPRESS MANUAL on M/A XFR STA to be transferred.	Candidate depresses MANUAL on 1A (1A) TDRFP M/A transfer station.	—	—	—
10.	VERIFY level is stable.	Candidate verifies reactor water level is stable.	—	—	—
11.	As necessary, ADJUST INCREASE/DECREASE Pushbuttons of M/A Station in MANUAL to control level.	Candidate adjusts M/A Stations as necessary to control level.	—	—	—
*12.	SWITCH to backup level control instrument. (B to C).	Candidate turns Level Selector switch from B to C.	—	—	—
	<p>Note: When C NR is selected, the C NR meter, recorder, and process computer display should increase to approximately 50 inches causing FW CONTROL RX WATER LVL 7 HI alarm.</p> <p>The candidate may reselect B NR Level immediately. This action is acceptable and meets the requirements of Step 20 (below).</p>				

Job Performance Measure M)

START
9:04

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
	NOTE: The procedure can be obtained in the upper drawer in the center desk area or from the LGA procedure book in the control room.				
1.	Obtain copy of LGA-MS-01 Attachment 2A.	Candidate demonstrates where copy of LGA-MS-01 can be obtained.	—	—	—
	CUE: Provide the candidate a copy of LGA-MS-01 when location of procedure is demonstrated.				
	NOTE: The equipment bag is located in the lower drawer in the center desk area. The equipment bag may be identified by the examinee and removed from its normal storage location but the seal of the bag should NOT be broken. Ensure examinee uses good basic work practices when installing jumpers, e.g. controls loose end of jumper, does not hold loose end by metal tip etc.				
2.	Obtain the Unit 2 LGA-MS-01 equipment bag.	Unit 2 LGA-MS-01 equipment bag obtained.	—	—	—
	CUE: You have the equipment you identified.				
	NOTE: Steps 3 through 7 can be performed in any order.				
*3.	Install jumper in panel 2H13-P609 between relay 1B22H-K10A terminal point 2 and relay 1B22H-K3A terminal point 1.	Properly labeled jumper installed between relay 1B22H-K10A terminal point 2 and relay 1B22H-K3A terminal point 1.	—	—	—
	CUE: The item you identified is installed as you described.				
*4.	Install jumper in panel 2H13-P609 between relay 1B22H-K10C terminal point 2 and relay 1B22H-K3C terminal point 1.	Properly labeled jumper installed between relay 1B22H-K10C terminal point 2 and relay 1B22H-K3C terminal point 1.	—	—	—

Job Performance Measure (JPM)

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
	CUE: The item you identified is installed as you described.				
*5.	Install jumper in panel 2H13-P611 between relay 1B22H-K10B terminal point 2 and relay 1B22H-K3B terminal point 1.	Properly labeled jumper installed between relay 1B22H-K10B terminal point 2 and relay 1B22H-K3B terminal point 1.	—	—	—
	CUE: The item you identified is installed as you described.				
*6.	Install jumper in panel 2H13-P611 between relay 1B22H-K10D terminal point 2 and relay 1B22H-K3D terminal point 1.	Properly labeled jumper installed between relay 1B22H-K10D terminal point 2 and relay 1B22H-K3D terminal point 1.	—	—	—
	CUE: The item you identified is installed as you described.				
*7.	Install jumper in panel 2H13-P604 between point BB-42 and BB-43.	Properly labeled jumper installed between points BB-42 and BB-43.	—	—	—
	CUE: The item you identified is installed as you described.				
8.	Inform Unit 2 NSO that LGA-MS-01, Attachment 2A is complete.	Unit 2 NSO informed that LGA-MS-01, Attachment 2A is complete.	—	—	—
Terminating	As Unit NSO, acknowledge report.				
CUE	This JPM is complete.				

JPM Stop Time: _____

.....

Job Performance Measure (JPM)

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
4.	VERIFY Engine Speed at 900 RPM (60Hz).	Engine speed verified to be 900 RPM (60Hz).	—	—	—
5.	CHECK DG has operated unloaded for 5 to 10 minutes to provide adequate cooldown.	DG operated unload for 5 to 10 minutes to provide adequate cooldown.	—	—	—
<div style="border: 1px solid black; padding: 5px;"> CUE If desired, the candidate may be informed that the 5-10 minutes have passed. </div>					
6.	Direct local operator to VERIFY 1HS-DGS001, 1A DG Engine Control Switch, in AUTO.	Local operator directed to VERIFY 1HS-DGS001, 1A DG Engine Control Switch, in AUTO.	—	—	—
<div style="border: 1px solid black; padding: 5px;"> Sim Op / CUE: As local operator, <ul style="list-style-type: none"> • acknowledge direction and report that 1HS-DGS001, 1A DG Engine Control Switch, is in AUTO. </div>					
7.	PLACE Diesel Gen Control switch to STOP position.	1A Diesel Gen Control switch placed in STOP position.	—	—	—
<div style="border: 1px solid black; padding: 5px;"> NOTE: The candidate should identify what indication(s) he will be using to determine that the DG is shutting down. (e.g. speed decreasing etc.) </div>					
8.	CHECK DG shuts down.	DG checked to be shutting down.	—	—	—
<div style="border: 1px solid black; padding: 5px;"> NOTE: The next two steps may be combined into one direction (order) by the candidate. </div>					
9.	PLACE 1HS-DG036, 1A DG Maintenance Switch, in MAINT to prevent remote <u>or</u> automatic starts of DG.	Local operator directed to place 1HS-DG036, 1A DG Maintenance Switch, in MAINT to prevent remote <u>or</u> automatic starts of DG	—	—	—

Job Performance Measure (JPM)

INITIAL CONDITIONS

- You are an extra NSO.
- The Station Vent Stack WRGM failed to automatically shift to the Mid/High Range Sample Pump.
- Stack flow is 700,000 scfm.
- Radiological conditions in the Auxiliary and Reactor building are at normal values.
- You have a plant radio.

INITIATING CUE

The Unit Supervisor has directed you to manually shift the Station Vent Stack WRGM to the Mid/High Range Sample Pump IAW LOP-PR-04, Step E.8.

Notify the Unit NSO when the Stack WRGM is re-aligned with proper flow.

Inform the Unit NSO when the rod is electrically disarmed.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

.....

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes CRITICAL steps.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section at the bottom of the page. The comment section should be used to document the reason that a step is marked as unsatisfactory and to document unsatisfactory performance relating to management expectations.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

.....

Job Performance Measure (JPM)

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
<p>Note Stack flow was provided in initial conditions to be 700,000 scfm</p>					
*8.	<p>VERIFY isokinetic flow by taking the sum of rotometers 0D18-N532 and 0D18-N529 as the total sample flow. COMPARE with stack flow and VERIFY within the attachment A or B limits.</p>	<ul style="list-style-type: none"> 0D18-N532 read 0D18-N529 read Readings summed and compared to Attachment A and B Flow rate is determined to require adjusting 			
CUE	<p>When 0D18-N532 is looked at: point to indicate the ball at 0.8. When 0D18-N529 is looked at: point to indicate the ball at 0.3.</p>				
9.	<p>If flow rate requires adjusting THROTTLE 0N62-F309 Auxiliary Sample Pump Suction Valve.</p>	<p>0N62-F309 is throttled OPEN (counter clockwise) to increase sample flow until total sample flow is approximately 1.45 ± 0.3.</p>			
CUE	<p>If 0N62-F309 is turned clockwise, decrease the values of 0D18-N532 and 0D18-N529. If 0N62-F309 is turned counter clockwise, increase the values of 0D18-N532 and 0D18-N529.</p>				
10.	<p>Notify the Unit NSO that the Mid/High Range Sample Pump is in service and isokinetic flow has been verified.</p>	<p>Unit NSO notified that the Mid/High Range Sample Pump is in service and isokinetic flow has been verified.</p>			
Terminating Cue	<p>Acknowledge report. This JPM is complete.</p>				

JPM Stop Time: _____

SAT

UNSAT

Comment
Number

NEED
COPY of
PROCEDURE

NO RADIO
candidates
evaluate to

FAULTED
JPM ?? End
here so
this is not a faulted
JPM

d/s not
labeled
"1309"

Job Performance Measure (JPM)**Materials**

1. The following material is required to be provided to candidate:
as part of initiating cue
 - a. One copy of LGA-RH-01 ~~(after demonstrating knowledge of location of controlled copy)~~
 - b. One laser pointer.
2. The following material may be identified by the candidate but NOT removed from its normal storage location:
 - a. Unit 2 LGA-RH-01 equipment bag containing the following:
 - 1) 2 Yellow jumpers
 - 2) 1 Nut driver
 - 3) Electrical Tape
 - 4) 1 Locked Valve and LGA Support Ladder Key
 - b. Flashlights/lanterns

Job Performance Measure (JPM)

Howe 2 HBI

INITIAL CONDITIONS

- You are an extra NSO.
- Unit 2 is experiencing an ATWS with low RPV level due to a feedwater line break.
- 10 control rods are full out, all other rods full in.
- LGA-NB-01 is in progress with reactor power is at 4% and falling.
- RPV level is -45 inches and dropping at 3 inches per minute.
- RCIC, SBLC and CRD are injecting at rated flows.
- Radiological conditions in the Turbine and Auxiliary buildings are normal.
- Radiological conditions in the Reactor building are twice normal values.
- You have a plant radio

- An emergency has been declared on Unit 2.
- You are a member of a 2-man team dispatched from the OSC. The other team member is an HP Tech.

INITIATING CUE

~~The Unit Supervisor has directed you~~ ^{You are} ~~to~~ perform LGA-RH-01 Attachment 2A.

Inform Unit ² NSO when the attachment is complete.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes CRITICAL steps.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section at the bottom of the page. The comment section should be used to document the reason that a step is marked as unsatisfactory and to document unsatisfactory performance relating to management expectations.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

Job Performance Measure (JPM)

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
1.	Obtain copy of LGA-RH-01 <i>Show examiner where to</i>	Candidate demonstrates where copy of LGA-RH-01 can be obtained.	—	—	—
CUE After candidate demonstrates where copy of LGA-RH-01 can be obtained, provide candidate with copy of LGA-RH-01. Note The Main LGA Support Locker key is an 'LA' key and can be obtained from the Control Room key locker.					
2.	Obtain Main LGA Support Locker key.	Candidate obtains Main LGA Support Locker key.	—	—	—
3.	Obtain Unit 2 LGA-RH-01 equipment bag from Main LGA Support Locker.	Candidate obtains Unit 2 LGA-RH-01 Method 1 bag from Main LGA Support Locker.	—	—	—
CUE You have the equipment that you have identified. Note Sequence is not required for Number 4 through Number 11 inclusive.					
*4.	At panel 2H13-P623, INSTALL yellow jumper from Terminal Block BB Point 104 to Terminal Block DD Point 42.	Candidate locates panel 2H13-P623, and installs yellow jumper from Terminal Block BB Point 104 to Terminal Block DD Point 42.	—	—	—
CUE The jumper is installed as you indicated.					
5.	Sign and enter date and time on LGA-RH-01, Attachment 2A.	Candidate signs and enters the current time and date on LGA-RH-01, Attachment 2A.	—	—	—
*6.	At panel 2H13-P623, Relay 2B21H-K75, LIFT lead from Point 10.	Candidate locates panel 2H13-P623, Relay 2B21H-K75, and lifts lead from Point 10.	—	—	—
CUE The wire lead you identified is in the condition you described.					

LaSalle County Station

DYNAMIC SIMULATOR EXAM SCENARIO GUIDE

ILT CLASS 99-01 NRC EXAM


ESG-1.1

Rev. 0

08/07/2000

Please provide a description of responsibilities for all three positions in all scenarios, even if it is only a statement "monitors reactor indications."

DEVELOPED BY:


Site Exam Developer

8-11-00
Date

APPROVED BY:


Facility Representative

8-11-00
Date

Scenario Outline

Facility: LaSalle StationScenario No.: ESG 1.1Op Test No.: 1

Examiners: _____

Operators: _____

Initial Conditions:

- Unit 1 is operating at 85% reactor power with flow control line at 105%.
- TLO Temperature controller in manual.
- 1C RHR Pump is OOS for breaker repair.
- 1B IN Compressor is OOS for lube oil change.
- Online Safety level is green.
- Unit 2 is operating at 100% power.

Turnover:

- Unit 1 is in a Division 2 work week.
- LOS-VG-M1 is scheduled to be performed this shift.
- A flow control line adjustment is also scheduled for this shift.
- Reactor Power has been reduced to 85% to allow for rod moves.
- The Control Rod Maneuver Request has been approved.

Event No.	Malf. No.	Event Type*		Event Description
1	N/A	R	RO SRO	Withdraw control rods to 110% flow control line.
2	N/A	N	BOP SRO	Perform VG monthly surveillance IAW LOS-VG-M1.
3	CAEP	C	RO SRO	Stuck control rod (excess friction).
4	MRD131	I	RO SRO	Loss of rod position indication at specific notch position.
5	CAEP	I	BOP SRO	RCIC drain pot alarm w/failure of 1E51-F054 to open automatically (can be opened with control switch).
6	MCA004	C	BOP SRO	VG supply fan trips on overload.
7	MES019	M	ALL	RCIC steam supply line breaks with a failure of isolation valves to close.
8	CAEP		BOP SRO	Failure of RCIC steam supply valve 1E51-F063.
9	CAEP		BOP SRO	Failure of RCIC steam supply valve 1E51-F008.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor Transient

Narrative Summary

Event(s)	Description
1.1.1	Once the turnover is completed, The SRO should direct the RO to withdraw control rods to the 110% flow control line. The RO should withdraw control rods in accordance with LGP 3-1, LOP-RM-01, and the rod sequence package.
1.1.2	The SRO should also direct the BOP operator to perform the VG monthly surveillance in accordance with LOS-VG-M1.
1.1.3	While pulling control rods for flow control line adjustment, a control rod will be stuck. The RO should refer to the abnormal operating procedures (LOA-RD-101). The rod can be moved by increasing drive pressure.
1.1.4	Also while moving control rods, the RO should find that rod position indication has failed (single notch position) for one of the rods to be moved. The crew should refer to the abnormal operating procedures and tech specs for required action.
1.1.5	After FCL rod moves are complete, drain trap failure will cause the hi level alarm on the RCIC steam line drain pot to come in. A failure of a hi level instrument switch will disable automatic opening of the 1E51-F054, requiring the BOP operator to take action to operate the valve using the control switch and lower drain pot level. The Crew should determine appropriate tech spec and administrative actions for the instrument failure.
1.1.6	Once the crew has carried out actions for the RCIC drain pot alarm, the VG supply fan trips on overload. The BOP should acknowledge/announce the alarms and refer to the applicable alarm procedures. The BOP should realign the VG train for shutdown and dispatch an operator locally to investigate the cause of the trip. The SRO should refer to tech specs for required action.
1.1.7, 8, 9	Once actions have been completed for the VG supply fan trip, the steam supply line breaks for the reactor core isolation cooling system (RCIC) with a failure of the isolation valves to close. The BOP should recognize the situation and attempt to manually isolate RCIC. The SRO should enter LGA-02 on high secondary containment temperature and LGA-01 for reactor pressure and level control after the scram. With the RCIC area temperature reaching maximum safe values, the crew should scram. As area temperatures rise in the secondary containment, the crew should emergency depressurize per the emergency operating procedures.

Critical Tasks

1. Crew recognizes primary release in secondary containment and manually scrams prior to 2 or more area temperatures reaching the "Max Safe" levels.
2. Crew recognizes failure of RCIC steam line isolation valves to close on valid isolation conditions, and take actions to attempt to isolate the line.
3. Crew performs an emergency depressurization (ADS) when area temperatures exceed Max Safe levels in more than one area. If crew elects to rapidly depressurize with BPVs and thus prevents second area from reaching max safe, this critical task should be considered met.

Operator Actions

Event No.(s): 1.1.4		Page 1 of 2
Description: Rod position indication has fails (single notch position) for one of the rods to be moved.		
Initiation: Will occur automatically when rod is at failed notch position		
Cues: No rod position on 4-Rod Display, RWM, or process computer (OD7).		
Time	Position	Applicant's Actions or Behavior
	RO	Per LOA-RM-101, For Loss of RPIS Display: <ul style="list-style-type: none"> • Prior to notching control rods to verify position displays, a Qualified Nuclear Engineer shall be consulted for guidance. • Complete Attachment B of LOA RM-01 and Forward a copy to IMD for Troubleshooting. • Check several rods for different four-rod displays -only one four rod display has failed RPIS. • Check RPIS INOP alarm - OFF when rods with good display are selected. • Attempt to notch withdraw peripheral rod at position 48 - normal withdraw sequence results. • Check all rods in selected four rod display - ONLY one rod has failed RPIS.
	BOP	Per LOA-RM-101, For Loss of RPIS Display: <ul style="list-style-type: none"> • Check DMM "RPIS LOST" LED - OFF (RMCS Display Memory Module Source Selector Card (1) at back of panel 1H13-P603 lower left of file monitor cards (4)).

NOTES:

[illegible]

Operator Actions

Event No.(s): 1.2.2, 1.2.3

Page 1 of 2 ^{as}

Description: The SRO directs the BOP to secure the 1B RHR pump which has been running for LOS-RH-Q1. An instrument failure will prevent the min flow valve, 1E12-F064B, from opening on the system flow decreases.

Initiation: Following shift turnover on the signal of lead examiner

Cues: Annunciator 1H13-P601-B306, does not clear as system flow is reduced

Time	Position	Applicant's Actions or Behavior
	BOP	<p>Per LOS-RH-Q1, Att. 1B:</p> <ul style="list-style-type: none"> • VERIFY B RHR Pump motor has ran a minimum of 30 minutes. • CLOSE 1E12-F024B, B RHR Test to SP Vlv. • VERIFY 1E12-F064B, B RHR Min Flow Vlv OPENS as flow decreases. <ul style="list-style-type: none"> ◦ Operator recognizes failure of 1E12-F064B to open. ◦ Reports problem to SRO. ◦ Opens 1E12-F064B with C/S and/or continues with pump shutdown. • STOP B RHR Pump 1E12-C002B. • OPEN 1E12-F048B, B RHR HX Bypass Valve. • If corner room temperature is less than 104 °F, VERIFY B/C RHR Pump Cubicle Cooler Fan 1VY03C has stopped. • If no longer required, SHUTDOWN DG Cooling Water Pump at 1PM01J. • On Panel 1H13-P601, verify RHR PMP dsch press LO alarm (B306) is clear. • 1E12-F031B, B RHR Pump Dsch Check Valve, check to close is satisfactory. If NOT satisfactory, REFER to LAP-300-46 for applicable actions. • At RB 673 inside B/C RHR Corner Room, after the RHR pump motor has cooled to ambient temperature, VERIFY RHR pump motor bearing oil reservoir levels are proper.

NOTES:

Operator Actions

Event No.(s): 1.3.5

Page 1 of 1

Description: After the IN system has been restored, the operating TDRFP seal injection pump will trip and the standby pump will fail to auto start.

Initiation: After crew has restored IN pressure, on the signal of lead examiner.

Cues: Annunciator LOR-1PM03J-A307 alarming

Time	Position	Applicant's Actions or Behavior
	RO	<p>Per LOR-1PM03J-A307,</p> <ul style="list-style-type: none"> • VERIFY a Seal Injection Pump is operating (Second Seal Injection Pump should start at 40 PSID) • At Panel 1FW01JA (768' outside feedpump room) VERIFY pressure at 1PS-FW187/188/189 is greater than 50 PSID. <ul style="list-style-type: none"> ◦ 1AP84E-E1-27 (136Y-3, Compt E-1, Bkr 21) provides Control Power for both the 1A TDRFP and 1B TDRFP Seal Injection Temperature Controls. • CHECK indication for 1A TDRFP Turning Gear on panel 1PM03J. <ul style="list-style-type: none"> ◦ If indication is NOT present, DISPATCH an operator to reset the breaker at 1AP84E-E1-21 (136Y-3, Compt E-1, Bkr 21). • At panel 1PL03JA, CHECK TDRFP Seal Injection Temperature Control System for proper operation. <ul style="list-style-type: none"> ◦ If local indication is de-energized, VERIFY the Seal Injection Temperature Control Valves have failed open. ◦ If TDRFP Seal Injection Temperature Controller is NOT working in AUTO, take manual control locally at the controllers. • If the problem cannot be corrected, the TDRFP must be shutdown and isolated before leakoff drain temperature exceeds 200°F.
	SRO	<ul style="list-style-type: none"> • Directs actions above. • Enforces OPS expectations and standards • Ensures operations are conducted within the bounds of Tech Specs and IAW Operations standards and approved procedures. • Contacts Work Control to investigate problem and initiate repairs.
Terminus: TDRFP Seal Injection Pump running and hi temperature alarms clear		

NOTES:

Operator Actions

Event No.(s): 1.3.6

Page 1 of 1

Description: Once the crew has restored seal injection, the output signal from the TDRFP A manual-auto (M/A) control station will fail low. As a result, TDRFP A will be driven to minimum speed.

increase failure ramp (slower initiation)

Initiation: After crew has restored TDRFP Seal Injection, on the signal of lead examiner.

Cues: Annunciator LOR-1H13-P603-A409 alarming, Lowering RPV level

Time	Position	Applicant's Actions or Behavior
	RO	<p>Per LOR-1H13-P603-A409:</p> <ul style="list-style-type: none"> • Check Rx Vessel level less than or equal to alarm setpoint. • If Automatic Level Control has malfunctioned, refer to LOA-FW-101. • If only one TDRFP running, and Rx Water level reaches Level 4 (31.5"), VERIFY RR Flow Control Valves RUNBACK to minimum position. <p>Per LOA-FW-101</p> <ul style="list-style-type: none"> • Verify all TDRFP M/A Xfr Stations are in manual. • Check MDRFP shutdown. • Stabilize reactor water level using feedpump M/A stations or TDRFP manual backup stations by initially matching feedwater flow with steam flow. • Check selected reactor water level instrument is operating properly. • Check reactor water level >12.5 inches and < 55.5 inches. • Check S/U controller deviations and indications normal. • Check steam flows and feed pump flows are normal. • Do not use 3 element auto until all feedpump flow indication is operable.
	SRO	<ul style="list-style-type: none"> • On transient, positions himself as command authority on the unit. • Acknowledges immediate operator actions and directs subsequent actions. • Requests an additional NSO to the control room for manual FW control. • Enforces OPS expectations and standards.

Terminus: RPV level stable in the green band, RWLC in manual, or Reactor scram

NOTES:

Operator Actions

00 MSLD

Event No.(s): 1.3.7, 1.3.8

Page 1 of 4

Description: Once the reactor is manually scrammed or reactor water level is stabilized, a major steam leak propagates inside the primary containment. A broken containment monitoring instrument line will have the following effects: - Fail Division 1 drywell pressure indication - Fail Division 1 ECCS and EDG automatic initiation - Prevent remote operation of Division 1 drywell spray

Initiation: Conditions stable following RWLC failure, or shortly after reactor scram if RPV level control is lost.

Cues: Multiple annunciators for High DW pressure

Time	Position	Applicant's Actions or Behavior
	RO	<p>When RO/BOP recognize indications of LOCA: Per LGP-3-2 Attachment E (hardcard):</p> <ul style="list-style-type: none"> • Arm and Depress scram pushbuttons • Place mode switch in Shutdown • Insert IRMs and SRMs • Check rods in and power decreasing • Inform Unit Supervisor rods are in • Operate FW to control level 12.5 to 55.5 inches • Report level and pressure trends • Verified RR downshifted to slow speed • Verify turbine and generator are tripped <p>Performs additional EOP actions as directed by SRO</p> <ul style="list-style-type: none"> • Coordinates with BOP to maintain/restore RPV level in band specified using preferred injection systems • Monitors RPV parameters <ul style="list-style-type: none"> ◦ Report lowering RPV level/pressure (value, rate, trend) ◦ Report indications of steam line break

NOTES:
