



Timothy A. Hope
Manager, Regulatory Affairs
Luminant
P.O. Box 1002
6322 North FM 56
Glen Rose, TX 76043
o 254.897.6370

CP-201800389
TXX-18044

U. S. Nuclear Regulatory Commission
Regional Administrator, Region IV
1600 East Lamar Boulevard
Arlington, Texas 76011-4511
ATTN: Mr. Kelly Clayton

Ref 10 CFR 55.5(b)(2)
10 CFR 55.25

6/25/2018

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT
DOCKET NOS. 50-445 AND 50-446
TRANSMITTAL OF LICENSED OPERATOR EXAMINATION MATERIALS

REFERENCES: 1. NUREG-1021, Revision 11, Examination Standard ES-403

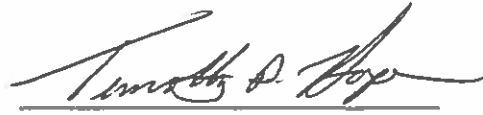
Dear Mr. Clayton:

Enclosed please find the written examination answer sheets, cover pages, and one completed Form ES-403-1, "Written Examination Grading Quality Checklist," for the initial operator licensing written examinations administered on June 20, 2018 at Comanche Peak Nuclear Power Plant (CPNPP). These examinations were graded and are submitted based on the guidance in Reference 1. Also enclosed in electronic form are the as-given operational and written examinations. CPNPP requests that the written examination and operating test be withheld from public disclosure for the allowed two-year period.

This communication contains no new licensing basis commitments regarding Comanche Peak Units 1 and 2.

If there are any questions concerning this submittal, contact Mr. Jordan Ruby at (254) 897-0585 (office) or at (214) 808-6506 (cell).

Sincerely,


Timothy A. Hope

Enclosure – 2018 Licensed Operator Written Examinations

C --

Kriss M. Kennedy, Region IV (clo)
Vincent Gaddy, Region IV (clo)
Margaret M. O'Banion, NRR (clo)
Resident Inspectors, Comanche Peak (clo)

CPNPP 2018 NRC WRITTEN EXAM ANALYSIS																																																					
1-75 RO / 75-100 SRO Only			VALUE:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
			KEY ANSWERS:	D	A	C	A	C	D	B	D	C	D	A	B	A	D	A/B	C	C	D	B	B	B	A	D	D	C	C	C	C	B	B	C	C	A	A	D	A	D	D	A	C	C	B	A	C	A	C	A	B		
NAME	TOTAL%	PTS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48			
	92.0	69.0																																																			
	84.0	63.0																																																			
	85.3	64.0						D																																													
	85.3	64.0																																																			
	97.3	73.0																																																			
	82.7	62.0								A																																											
	80.0	80.0						D			C																																										
	80.0	80.0										C																																									
	85.0	85.0																																																			
	89.0	89.0																																																			
	91.0	91.0																																																			
	89.0	89.0								A																																											
	93.0	93.0																																																			
	89.0	89.0																																																			
	91.0	91.0																																																			
Total Missed:							2		1	2		1							1		3	1	1	11	3	1	3		3	3	1		10	2	1			3		2	6		14			6	2						
1-75 RO / 75-100 SRO Only			VALUE:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
			KEY ANSWERS:	A	C	B	D	A	D	A	B	B	C	D	D	C	B	C	B	A	A	A	A	C	B	D	C	D	A	C	B	D	A	A	C	C	B	D	A	B	A	C	B	A	D	C	B	B	D	C	A		
NAME	SRO %	RO %	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98			
	92.0																	A																																			
	84.0					D																																															
	85.3					A																																															
	85.3																																																				
	97.3																																																				
	82.7																																																				
	72.0	82.7																																																			
	72.0	82.7																																																			
	88.0	84.0																																																			
	84.0	90.7																																																			
	96.0	89.3																																																			
	80.0	92.0																																																			
	84.0	96.0																																																			
	72.0	94.7																																																			
	76.0	96.0																																																			

1-75 RO / 75-100 SRO Only		VALUE:	1	1
		KEY ANSWERS:	A	B
NAME	TOTAL%	PTS	49	50
	92.0	69.0		
	84.0	63.0		
	85.3	64.0		
	85.3	64.0	D	
	97.3	73.0		
	82.7	62.0	D	
	80.0	80.0		
	80.0	80.0		
	85.0	85.0		
	89.0	89.0		
	91.0	91.0		
	89.0	89.0		
	93.0	93.0		
	89.0	89.0		
	91.0	91.0		
		Total Missed:	2	
1-75 RO / 75-100 SRO Only		VALUE:	1	1
		KEY ANSWERS:	D	D
NAME	SRO %	RO %	99	100
		92.0		
		84.0		
		85.3		
		85.3		
		97.3		
		82.7		
	72.0	82.7		
	72.0	82.7		
	88.0	84.0		
	84.0	90.7		
	96.0	89.3		
	80.0	92.0		
	84.0	96.0		
	72.0	94.7		
	76.0	96.0		
		Total Missed:		
SRO Total Points =		100		
RO Only Points =		75		
SRO Only Points =		25		
RO Questions Average =		90.8		
SRO Questions Average =		84.0		
Class Average =		89.6		

Examination Outline Cross-Reference	Level	RO
004 Chemical and Volume Control	Tier #	2
	Group #	1
Knowledge of the effect of a loss or malfunction on the following CVCS components: K6.17 Flow paths for emergency boration	K/A #	004 / K6.17
	Rating	4.4
	QREV	7

Question 15

Unit 1 has a reactor trip from 100% power with the following conditions:

- four control rods failed to insert
- The US has entered EOP-0.0A, "Reactor Trip or Safety Injection," and ABN-107, "Emergency Boration."

Step 1 of ABN-107 states:

"Check RWST TO CHRG PMP SUCT VLVs, 1/1-LCV-112D AND 1/1-LCV-112E – CLOSED."

For some unknown reason the RWST TO CHRG PMP SUCT VLV, 1/1-LCV-112D is OPEN and WILL NOT CLOSE.

The Response Not Obtained (RNO) column of ABN-107 directs the operator to emergency borate _____ because it is the preferred method for these plant conditions.

- from the RWST via 1/1-LCV-112D OR 1/1-LCV-112E using Attachment 4
- through emergency borate valve 1-8104 using Attachment 1
- through manual emergency borate valve 1CS-8439 using Attachment 3
- through normal boration valves 1-FCV-0110A and 1/u-FCV-0110B using Attachment 2

Answer: A

Explanation:

A is correct because according to ABN-107, step 1 if 1/1-LCV-112D and 1/1-LCV-112E are not closed, the RNO directs you to step 7 which states that Attachment 4 is the preferred method to emergency borate from the RWST. If it is open (LCV-112D) and won't close, the interlock to allow the other valves to open and borate through other normally preferred methods is not available so this is the preferred method.

B is incorrect because according to ABN-107, Attachment 1 is the preferred method if 1/1-LCV-112D and 1/1-LCV-112E are closed, and at least one Boric Acid pump is available.

C is incorrect because according to ABN-107, Attachment 3 is another method if 1/1-LCV-112D and 1/1-LCV-112E are closed, and at least one Boric Acid pump is available.

D is incorrect because according to ABN-107, Attachment 3 is another method if 1/1-LCV-112D and 1/1-LCV-112E are closed, and at least one Boric Acid pump is available.

Technical References:

ABN-107, Emergency Boration, Rev. 9, pages 4-5

References to be provided to applicants during exam: None.

Learning Objective: LO21.ABN.105.OB06; LO21.SYS.CS1.OB04

Question Source: (note changes; attach parent)	Bank # Modified Bank # New	X
Question History:	Last NRC Exam	No
Question Cognitive Level:	Memory/Fundamental Comprehensive/Analysis	3
10CFR Part 55 Content:	55.41.7	

Question 15

Recommend accepting two correct answers A and B

During written examination review of the CPNPP 2018 NRC exam it was identified that Question 15 has two correct answers.

Reason

- The question exhibits a normal reactor trip with NO Safety Injection, 4 Control Rods failing to insert into the core, and 1/1-LCV-112D open for some unknown reason
- The US then enters EOP-0.0A, Reactor Trip or Safety Injection AND ABN-107, Emergency Boration
- When the Reactor Operator notes all rods failed to insert, there is no RNO action to be performed in EOP-0.0A and the crew proceeds to step 2. After the completion and verbalization of the Immediate Operator Actions (Steps 1-4) of EOP-0.0A, the Reactor Operator will Emergency Borate for the stuck rods per the Fold Out Page guidance contained in EOP-0.0A, Attachment 1A, Foldout For EOP-0.0A Reactor Trip Or Safety Injection.
- The action to perform Emergency Boration is performed independently of US direction as a Foldout Page action. The US will not direct the action, only ensure that it takes place and verify its initiation
- EOP-0.0A Foldout Page states to Emergency Borate, per ABN-107, if two or more control rods are NOT fully inserted (1800 gallons of 7000 ppm boric acid for each control rod not fully inserted)
- ABN-107 contains a NOTE prior to Step 1 stating: "Attachment 1 and Attachment 4 have been developed into Operator Aids for use during emergency boration and may be entered independently of this procedure."
- This NOTE is what allows the Reactor Operator to initiate Emergency Boration per the Operator Aid independently of ABN-107. The operator will execute either page 1 or page 2 of the operator aid by diagnosing the current plant conditions and determining if a Safety Injection has occurred or not. In this case there is no Safety Injection present, therefore Emergency Boration will be conducted per Attachment 1 (Page 2 of the Operator Aid)
- The Operator Aid (PLR# 2013-0023-S) is contained at the Main Control Board (MCB) Panel CB-06
- The first page of the operator aid is an exact replica of ABN-107, Attachment 4, Transfer of Charging Pump Suction to the RWST, Page 1 ONLY. This page of the operator aid would be used to initiate Emergency Boration anytime a Safety Injection HAS occurred
- The second page of the operator aid is an exact replica of ABN-107, Attachment 1, Emergency Boration Through Emergency Borate Valve u-8104. This page of the operator aid would be used to initiate Emergency Boration anytime a Safety Injection has NOT occurred and there are no known issues with either u-8104 or the Boric Acid Transfer Pumps.
- The Reactor Operator may either Emergency Borate per the second page of the operator aid that is a replica of Attachment 1 of the ABN or the first page of the operator aid that is a replica of page 1 of Attachment 4 of the ABN
- Based on the information provided above CPNPP has determined both selections 'A' and 'B' are correct

- Answer choices 'C' and 'D' are incorrect because these attachments CANNOT be entered independently of ABN-107 and are NOT directed by the procedure based on the given conditions
- The original correct answer as approved on the worksheet and the answer key is 'A'
- See attached figure of the Operator Aid marked as PLR# 2013-0023-S
- See attached figure of ABN-107 NOTE prior to Step 1

EMERGENCY BORATION VIA
TRANSFER OF CHARGING PUMP SUCTION TO THE RWST (ABN-107, Attachment 4)

[L]

CAUTION: Injecting through a CCP SI ISOL VLV (8801A/B) requires CCP SI injection check valve leak test within 24 hours per SR 3.4.14.1 (requires MODE 3, 4, or 5).

1. IF Safety Injection actuated (1/u-LCV-112D OR 1/u-LCV-112E OPEN),
THEN
perform the following steps:

- a. Verify ONE of the following valves OPEN:

- ☐ • 1/u-LCV-112D, RWST TO CHRGR PMP SUCT VLV.
OR
☐ • 1/u-LCV-112E, RWST TO CHRGR PMP SUCT VLV.

- b. Verify the following valves CLOSED:

- ☐ • 1/u-LCV-112B, VCT TO CHRGR PMP SUCT VLV.
AND
☐ • 1/u-LCV-112C, VCT TO CHRGR PMP SUCT VLV.

- c. Verify at least ONE CCP running:

- ☐ • 1/u-APCH1, CCP 1
☐ • 1/u-APCH2, CCP 2

- ☐ d. Verify u-FI-917, CCP SI FLOW indication.

- ☐ e. IF CCP SI FLOW can NOT be verified,
THEN
Initiate Emergency Boration flow per another method of ABN-107.

NOTE: TDM-201A/B provides equivalency values for boration from 2400 ppm source and a 7000 ppm source. A conservative approach is to borate the entire volume required for the condition from the 7000 ppm source once boration flow from the 2400 ppm source is terminated.

- ☐ f. WHEN the RWST is isolated (1/u-LCV-112D AND 1/u-LCV-112E CLOSED) per the applicable ERG,
THEN
Initiate Emergency Boration Flow per another method of ABN-107 until the desired amount of boration volume is injected (Reference Attachment 7 of ABN-107).

- ☐ 2. IF Safety Injection is NOT actuated (1/u-LCV-112D AND 1/u-LCV-112 E CLOSED),
THEN
initiate Emergency Boration Flow through 1/u-LCV-112D OR 1/u-LCV-112 E per Attachment 4 of ABN-107, OR initiate Emergency Boration Flow per another method of ABN-107.

EMERGENCY BORATION
THROUGH EMERGENCY BORATE VALVE u-8104 (ABN-107, Attachment 1)

[L]

☐

1. Ensure a charging pump is running:

- 1/u-APCH1, CCP 1
- 1/u-APCH2, CCP 2
- 1/u-APPD, PDP

☐

2. Start a boric acid transfer pump:

- 1/u-APBA1, BA XFER PMP 1 - AUTO (AFTER START)
- 1/u-APBA2, BA XFER PMP 2 - AUTO (AFTER START)

☐

3. Open 1/u-8104, EMER BORATE VLV

☐

4. Verify flow on u-FI-183A, EMER BORATE FLO

☐

5. Verify flow on u-FI-121A, CHRG FLOW

☐

6. IF EMER BORATE FLOW OR CHRG FLOW can NOT be verified,
THEN
initiate Emergency Boration Flow per another method of ABN-107.

☐

7. WHEN desired to terminate emergency boration (Reference Attachment 7 of ABN-107),
THEN
GO TO Step 8 of ABN-107.

CPNPP ABNORMAL CONDITIONS PROCEDURES MANUAL	UNIT 1 AND 2	PROCEDURE NO. ABN-107
EMERGENCY BORATION	REVISION NO. 9	PAGE 4 OF 32

2.3 Operator Actions

ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
--------------------------	-----------------------

CAUTION: CCP runout may occur with simultaneous flow through both charging and SI flowpaths.

NOTE: Attachment 1 and Attachment 4 have been developed into Operator Aids for use during emergency boration and may be entered independently of this procedure.

- ☐ 1 Check RWST TO CHRГ PMP SUCT VLVs, 1/ϒ-LCV-112D AND 1/ϒ-LCV-112E - CLOSED GO TO Step 7.
- ☐ 2 Verify BA pump - AT LEAST ONE AVAILABLE GO TO Step 6.
- ☐ 3 Initiate and Continue EMERGENCY BORATION using one of the following methods.

NOTE: Attachment 1 is the preferred method of Emergency Boration. Train B Safeguards electrical power is required for operation of 1/ϒ-8104.

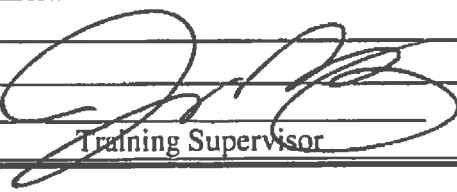
- Attachment 1 - 1/ϒ-8104

NOTE: Attachment 2 utilizes the normal boration flow path, which requires 1/ϒ-LCV-112B and 1/ϒ-LCV-112C to be open.

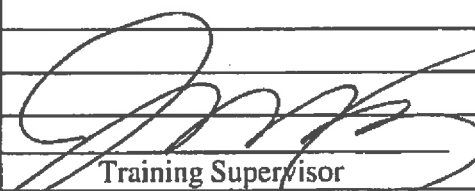
- Attachment 2 - Normal Boration
- Attachment 3 - Manual Emergency Boration Valve (ϒCS-8439)
- Attachment 9 - Mode 6 - Impaired CVCS

- ☐ 4 Verify EMERGENCY BORATION Flow GO TO Step 6.
- ☐ 5 GO TO Step 8

EXAM FEEDBACK

Originator	Question: Exam Material Code: <u>2018 NRC Exam</u> Question Number: <u>15</u> Or Full Question ID Number: _____	
Description of Problem: (Be as detailed as possible and include references when available) <u>ABN-107 allows the use of Att. 1 and 4 as job aids. We are trained to normally emergency borate using the Att. 1 job aid through valve 1-8104.</u>		
<div style="display: flex; justify-content: space-between;"> Name _____ Date <u>06/21/18</u> Mail Code _____ </div>		
Evaluator	Recommended Disposition: A. Examination/Examination Key: <u>Accept answers A & B</u> B. Examination Bank: <u>Correct prior to addition to the bank</u> C. Other: <u>None</u>	
<div style="display: flex; justify-content: space-between;"> <u>Jack Wise</u> Date <u>6/21/18</u> </div>		
1. Prepare and submit disposition for approval. 2. After approval, complete approved actions, forward copy to originator and file original with exam		
Approval	Approval Disposition: <input checked="" type="checkbox"/> As recommended <input type="checkbox"/> Other/ additional	
<div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="text-align: center;">  Training Supervisor </div> <div style="text-align: center;"> <u>6/21/18</u> Date </div> </div>		

EXAM FEEDBACK

Originator	Question: Exam Material Code: <u>2018 NRC EXAM</u> Question Number: <u>15</u> Or Full Question ID Number: _____	
Description of Problem: (Be as detailed as possible and include references when available) <u>NOTE IN ABN-107 GIVES PERMISSION TO USE OPERATOR</u> <u>AIDS ON ATTACHMENTS 1+4. WE EMERGENCY BORATE USING</u> <u>ATT. 1 THROUGH 1-8104 WHEN SI NOT PRESENT.</u>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;">Name _____</div> <div style="width: 30%;">Date <u>6/21/2018</u></div> <div style="width: 30%;">Mail Code _____</div> </div>		
Evaluator	Recommended Disposition: A. Examination/Examination Key: <u>Accept answers A & B</u> B. Examination Bank: <u>Correct prior to addition to the bank</u> C. Other: <u>None</u>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;">Name <u>Jack Wise</u></div> <div style="width: 30%;">Date <u>6/21/18</u></div> </div>		
1. Prepare and submit disposition for approval. 2. After approval, complete approved actions, forward copy to originator and file original with exam		
Approval	Approval Disposition: <input checked="" type="checkbox"/> As recommended <input type="checkbox"/> Other/ additional	
<div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 30%;">  Training Supervisor </div> <div style="width: 30%;">Date <u>6/21/18</u></div> </div>		

WRITTEN EXAM ADMINISTRATION SHEET

Proctor Name: Jack Weiss / Bill Gross / Jordan Ruby

Exam: LC26 NRC EXAM

Date: 6/20/18

Time	Question #	Question	NRC Called		Proctor Response/NRC Response
			YES	NO	
0850	31	Is Attachment 4 part of FPI or the ABN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Attachment 4 is part of AN ABN written on white board.
0830	86	IF A TECHNICAL Specification # IS PROVIDED, THE TITLE of the Spec. should also be provided	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Provide T.S. NAME to all candidates T.S. # & TITLE written on white board.
0900	22	C) Sump has a "Trash Rack" to keep big stuff out AND has a large # of vertical strainers to increase overall surface AREA; what is considered "Sump Surface" D) ARE Grates (trash Rack) considered coarse strainers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	None.
1022	93	Transition to SACRG-1 Requires >1200F and rising temp. Stem does not give enough info to make this determination.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No response provided. Answer question based on given information
1050	78	Are 8716 A/B available	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No response provided - answer question based on given information
1110	91	Does it matter that the procedures do not indicate Unit 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No response - answer question based on information in stem of question

Instructions:

- Make multiple copies of the first page, as needed, for questions during exam.
- For all questions, document on Page 2 the receipt of any questions, the question #, and whether or not the NRC was called.
- IF a question is **NOT** documented on page 1, **THEN** document both the question, response provided and the NRC comments on this form.

Level of Use:
INFORMATION USE

TRI-206.01-4
Page 2 of 2
Revision 0

1 of 3

WRITTEN EXAM ADMINISTRATION SHEET

Proctor Name: Jack Wise / Bill Gross

Exam: LC26 NRC Exam

Date: 6/20/18

Time	Question #	Question	NRC Called		Proctor Response/NRC Response
			YES	NO	
1120	55	Part 2 - How long after TK-455A placed in Manual is this?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Response - question stands as written.
1132	90	Have any actions, such as placing SSWP in pull-out, been taken	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Response - question stem contains all necessary info to answer question
1138	55	Part 2 of Question: Is the question asking "At the exact initial moment going to manual => (HTES off)? (OR) where would HTES be when adjusted for current plant conditions (Probably on).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Doesn't matter if immediately or later, answer question as written
1225	27	No answer matches calculated value of 93.3 minutes. What is question asking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	None - question stem asks max time before FWI
1237	83	Is question asking what Procedure directs of boration required for "Most Sk Red" stuck	<input type="checkbox"/>	<input checked="" type="checkbox"/>	None - question stem provides all information required to answer question
1243	91	Is it desired to address trip of the RTRP or RCS leakage first?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Response given - which procedure is the highest priority based on the given conditions

Instructions:

- Make multiple copies of the first page, as needed, for questions during exam.
- For all questions, document on Page 2 the receipt of any questions, the question #, and whether or not the NRC was called
- **IF a question is NOT documented on page 1, THEN** document both the question, response provided and the NRC comments on this form.

Level of Use:
INFORMATION USE

TRI-206.01-4
Page 2 of 2
Revision 0

2 of 3

WRITTEN EXAM ADMINISTRATION SHEET

Proctor Name: Jack Wize / Bill Gross / Jordan Ruby

Exam: LC26 NRC Exam

Date: 6/20/18

Time	Question #	Question	NRC Called		Proctor Response/NRC Response
			YES	NO	
1250	87	does PORV PCV-45h remain stuck open?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	None - question stem provides all information required to answer question -
1320	42	Should I assume Containment Spray or Just ECCS pumps	<input type="checkbox"/>	<input checked="" type="checkbox"/>	None - Stem Provides information required to answer this question.
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	

Instructions:

- Make multiple copies of the first page, as needed, for questions during exam.
- For all questions, document on Page 2 the receipt of any questions, the question #, and whether or not the NRC was called.
- **IF a question is NOT documented on page 1, THEN** document both the question, response provided and the NRC comments on this form.

Level of Use:
INFORMATION USE

TRI-206.01-4
Page 2 of 2
Revision 0

3 of 3

CPNPP NRC 2018 Written Examination
Senior Reactor Operator

1. ☐ A ☐ B ☐ C ☒

2. ☒ ☐ B ☐ C ☐ D

3. ☐ A ☐ B ☒ ☐ D

4. ☒ ☐ B ☐ C ☐ D

5. ☐ A ☐ B ☒ ☐ D

6. ☐ A ☐ B ☐ C ☒

7. ☐ A ☒ ☐ C ☐ D

8. ☐ A ☐ B ☐ C ☒

9. ☐ A ☐ B ☒ ☐ D

10. ☐ A ☐ B ☐ C ☒

11. ☒ ☐ B ☐ C ☐ D

12. ☐ A ☒ ☐ C ☐ D

13. ☒ ☐ B ☐ C ☐ D

14. ☐ A ☐ B ☐ C ☒

15. ☒ ☒ ☐ C ☐ D

16. ☐ A ☐ B ☒ ☐ D

17. ☐ A ☐ B ☒ ☐ D

18. ☐ A ☐ B ☐ C ☒

19. ☐ A ☒ ☐ C ☐ D

20. ☐ A ☒ ☐ C ☐ D

21. ☐ A ☒ ☐ C ☐ D

22. ☒ ☐ B ☐ C ☐ D

23. ☐ A ☐ B ☐ C ☒

24. ☐ A ☐ B ☐ C ☒

25. ☐ A ☐ B ☒ ☐ D

26. ☐ A ☐ B ☒ ☐ D

27. ☐ A ☐ B ☒ ☐ D

28. ☐ A ☐ B ☒ ☐ D

29. ☐ A ☒ ☐ C ☐ D

30. ☐ A ☒ ☐ C ☐ D

31. ☐ A ☐ B ☒ ☐ D

32. ☐ A ☐ B ☒ ☐ D

33. ☒ ☐ B ☐ C ☐ D

34. ☒ ☐ B ☐ C ☐ D

35. ☐ A ☐ B ☐ C ☒

36. ☒ ☐ B ☐ C ☐ D

37. ☐ A ☐ B ☐ C ☒

38. ☐ A ☐ B ☐ C ☒

39. ☒ ☐ B ☐ C ☐ D

40. ☐ A ☐ B ☒ ☐ D

41. ☐ A ☐ B ☒ ☐ D

42. ☐ A ☒ ☐ C ☐ D

43. ☒ ☐ B ☐ C ☐ D

44. ☐ A ☐ B ☒ ☐ D

45. ☒ ☐ B ☐ C ☐ D

46. ☐ A ☐ B ☒ ☐ D

47. ☒ ☐ B ☐ C ☐ D

48. ☐ A ☒ ☐ C ☐ D

49. ☒ ☐ B ☐ C ☐ D

50. ☐ A ☒ ☐ C ☐ D

51. ☒ ☐ B ☐ C ☐ D

Name _____

Date _____

Accept
Answers
A & B
JR
6/21/18

CPNPP NRC 2018 Written Examination
Senior Reactor Operator

52. (A) (B) (C) (D)

53. (A) (B) (C) (D)

54. (A) (B) (C) (D)

55. (A) (B) (C) (D)

56. (A) (B) (C) (D)

57. (A) (B) (C) (D)

58. (A) (B) (C) (D)

59. (A) (B) (C) (D)

60. (A) (B) (C) (D)

61. (A) (B) (C) (D)

62. (A) (B) (C) (D)

63. (A) (B) (C) (D)

64. (A) (B) (C) (D)

65. (A) (B) (C) (D)

66. (A) (B) (C) (D)

67. (A) (B) (C) (D)

68. (A) (B) (C) (D)

69. (A) (B) (C) (D)

70. (A) (B) (C) (D)

71. (A) (B) (C) (D)

72. (A) (B) (C) (D)

73. (A) (B) (C) (D)

74. (A) (B) (C) (D)

75. (A) (B) (C) (D)

76. (A) (B) (C) (D)

77. (A) (B) (C) (D)

78. (A) (B) (C) (D)

79. (A) (B) (C) (D)

80. (A) (B) (C) (D)

81. (A) (B) (C) (D)

82. (A) (B) (C) (D)

83. (A) (B) (C) (D)

84. (A) (B) (C) (D)

85. (A) (B) (C) (D)

86. (A) (B) (C) (D)

87. (A) (B) (C) (D)

88. (A) (B) (C) (D)

89. (A) (B) (C) (D)

90. (A) (B) (C) (D)

91. (A) (B) (C) (D)

92. (A) (B) (C) (D)

93. (A) (B) (C) (D)

94. (A) (B) (C) (D)

95. (A) (B) (C) (D)

96. (A) (B) (C) (D)

97. (A) (B) (C) (D)

98. (A) (B) (C) (D)

99. (A) (B) (C) (D)

100. (A) (B) (C) (D)

Name _____

Date _____