ENCLOSURE 2

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket Nos.:	50-498; 50-499
License Nos.:	NPF-76; NPF-80
Report No.:	50-498/97-301; 50-499/97-301
Licensee:	STP Nuclear Operating Company
Facility:	South Texas Project Electric Generating Station, Units 1 and 2
Location:	FM 521 - 8 miles west of Wadsworth Wadsworth, Texas
Dates:	October 20 to December 5, 1997
Inspectors:	H. Bundy, Chief Examiner, Operations Branch R. Lantz, Examiner, Operations Branch M. Murphy, Senior Examiner, Operations Branch
Accompanying Personnel:	K. Erickson, Examiner, Battelle Pacific NW Laboratories R. Pugh, Examiner, Battelle Pacific NW Laboratories J. Nickolaus, Examiner, Battelle Pacific NW Laboratories
Approved By:	J. Pellet, Chief, Operations Branch Division of Reactor Safety

ATTACHMENTS:

Attachment 1:	Supplemental Information
Attachment 2:	Simulation Facility Report
Attachment 3:	Facility Initial License Written Examination Comments
Attachment 4:	Final Written Examination and Answer Key

EXECUTIVE SUMMARY

South Texas Project Electric Generating Station, Units 1 and 2
NRC Inspection Report 50-498/97-301; 50-499/97-301

NRC examiners evaluated the competency of 6 reactor operator and 8 senior operator applicants for issuance of operating licenses at the South Texas Project facility. The licensee developed the initial license examinations using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Interim Revision 8. NRC examiners reviewed, approved, and administered the examinations. The initial written examinations were administered to all 14 applicants on October 17, 1997, by facility proctors in accordance with instructions provided by the chief examiner. The NRC examiners administered the operating tests on December 1-5, 1997.

Operations

- All six applicants for reactor operator licenses and all eight applicants for senior operator licenses displayed the requisite knowledge and skills to satisfy the requirements of 10 CFR Part 55 and were issued the appropriate licenses (Sections O4.1, O4.2).

- Overall, the operator license applicants demonstrated good crew dynamics and communications. Individual self-verification was consistently good during control panel and equipment manipulations (Section O4.2).

- The licensee initially failed to submit an acceptable examination for administration to operator license applicants for the control room systems and facility walkthrough portion of the examination. Several revisions by the licensee were required to produce a product which satisfied examination standards. This resulted in delaying administration of the operating test portion of the examination (Section O5.1).

- A violation involving the granting of examination exemptions to two individuals, contrary to the regulations, was identified by the NRC. Because the licensee had completed its assessment and revised its procedure to prohibit exemptions and ensure that all licensed operators meet the requirements, no response was requested (Section O8.1).

Report Details

Summary of Plant Status

Both units operated at essentially 100 percent power for the duration of this inspection.

I. Operations

O4 Operator Knowledge and Performance

O4.1 Initial Written Examination

a. Inspection Scope

On October 17, 1997, the licensee proctored the administration of the written examination approved by the NRC to six individuals who had applied for initial reactor operator licenses and eight individuals who had applied for initial senior operator licenses. The licensee graded the written examinations and its staff reviewed the results. The licensee also performed a post-examination question analysis, which was reviewed by the examiners.

b. Observations and Findings

The minimum passing score was 80 percent. All applicants for reactor operator licenses passed with scores ranging from 81 to 91 percent. All applicants for senior operator licenses passed with scores ranging from 81.8 to 94.9 percent. The average score for reactor operator applicants was 86.8 percent and the average score for senior operator applicants was 88.9 percent.

The above grades reflected the results after examination changes recommended by the licensee as a result of post-examination question analysis were incorporated. The examiners reviewed and accepted these recommendations based on the technical merits of each recommendation. As a result of this analysis, two answers were accepted for Questions 54 and 59, which were common to both examinations. Also, two answers were accepted for Question 95 on the reactor operator examination. Question 15 on the senior operator examination had no correct answer and was deleted.

The chief examiner reviewed the licensee's question analysis with particular attention to those questions which were missed by more than half the applicants. Only questions 86 and 96, which were common to both examinations, were in that category. Reasons for missed questions appeared related to isolated training weaknesses. The chief examiner determined that there were no significant interrelationships to indicate generic weaknesses in knowledge or ability.

c. Conclusions

All applicants passed the written examination.

O4.2 Initial Operating Test

a. Inspection Scope

The examination team administered the various portions of the operating test to the 14 applicants on December 1-4, 1997. Each applicant participated in one to three dynamic simulator scenarios. Each also received a walkthrough test which consisted of ten system tasks together with two followup questions for each system, except for four applicants who were upgrading their reactor operator to senior operator licenses and were each administered five system tasks with followup questions. Five subjects in four administrative areas were covered by administrative tasks for all applicants.

b. Observations and Findings

All applicants passed all sections of the operating test. Generally good crew dynamics and communications were observed. One exception was noted during one scenario when confusion arose concerning the implications of certain plant indications. The panel operators became very concerned about their individual panel indications and manipulations and declined to support periodic briefings by the control room supervisor. Also, because of their preoccupation with their panels, the supervisor had to repeat several of his directives. The examiners observed good plant awareness, ownership, and application of principles for self-verification of individual performance by the applicants throughout the examination. The application of management expectations for peer checking by the applicants ranged from outstanding to nonexistent, depending on the crew being observed.

c. Conclusions

All applicants passed all sections of the operating test. Overall, the operator license applicants demonstrated good crew dynamics and communications. Individual self-verification was consistently good during control panel and equipment manipulations.

O5 Operator Training and Qualification

O5.1 Initial Licensing Examination Development

The licensee developed the initial licensing examination in accordance with guidance provided in NUREG-1021.

O5.1.1 Examination Outline

a. Inspection Scope

The licensee submitted the initial examination outline on August 19, 1997. The examiners reviewed the submittal against the requirements of NUREG-1021.

b. Observations and Findings

The chief examiner provided several enhancement suggestions related to examination integrity and responsiveness to NUREG-1021 requirements, which were incorporated by the licensee in the written examination outline. There appeared to be excessive day-to-day overlap of subject material on the administrative portion of the examination. The final outlines included more differences in subject matter from day-to-day. Also, unique discriminatory tasks were developed in several instances in which the same subjects were covered from day-to-day.

The licensee incorporated a number of enhancement suggestions for the walkthrough task outline. Several of the changes related to providing the recommended coverage of safety functions, engineered safety features, and radiological controlled area entry. Other comments related to expected examination difficulty and administration efficiency. The licensee acknowledged these comments for consideration in developing the final test items.

Also, the licensee incorporated a number of enhancement suggestions for the dynamic scenario outline. The licensee did not have a clear understanding of what constituted a normal event for examination purposes. It subsequently replaced some events to clearly satisfy NUREG-1021.

After consideration of NRC comments on both the original outline and test items, the licensee submitted an acceptable final outline on October 29, 1997.

c. Conclusions

After incorporation of several enhancement suggestions provided by the examiners, the licensee submitted an acceptable final outline.

O5.1.2 Examination Package

a. Inspection Scope

The licensee submitted the initial examination package on September 19, 1997. The chief examiner reviewed the submittal against the requirements of NUREG-1021. Because of extensive NRC comments on the initial submittal, the licensee submitted a revised operating test package on October 29, 1997, following onsite review by examiners during the week of October 20, 1997.

b. Observations and Findings

The licensee submitted 124 draft written examination questions, of which 76 were designated to be common to both the reactor operator and senior operator examinations. The licensee subsequently submitted an additional question during the initial review to satisfy the NUREG-1021 requirement for having 25 unique questions on the senior operator examination. The chief examiner provided comments or questions on 15 questions on the reactor operator examination and 10 questions on the senior operator examination. In resolving these questions and comments, the licensee modified or replaced 7 questions which were common to both examinations, 4 questions which appeared only on the reactor operator examination, and 3 questions which appeared only on the senior operator examination. Additionally, as a result of further internal review, the licensee modified or replaced 5 questions common to both examinations, 3 questions which appeared only on the reactor operator examination, and 1 question which appeared only on the senior operator examination. As discussed in Section O4.1, following post-examination review, credit was given for two answers for 3 questions on the reactor operator examination and 2 questions on the senior operator examination. In addition, 1 question, which had no correct answer, was deleted on the senior operator examination. Although failure to make the above changes would not have invalidated the examinations, it would have seriously degraded their discriminatory value. The examinations were considered marginally adequate for administration as submitted, based on the pre- and post-examination changes.

The licensee submitted six dynamic scenarios, including one backup scenario, which was not used during the examination. The submitted scenarios were adequate for administration. However, the expected operator action forms did not meet the quality requirements discussed in NUREG-1021. Also, the quality assurance forms did not accurately reflect what was included in the scenarios in all instances. The licensee subsequently incorporated several enhancement suggestions provided by the NRC examiners as a result of a table top review and onsite evaluation.

The licensee submitted four sets of job performance measures to cover the administrative section of the examination. One set was designed for the reactor operator applicants and three sets were designed for senior operator applicants. Although some of the attachments were not included in the initial submittal, the job performance

measures were adequate for administration with suitable attachments. The licensee provided the proper attachments and incorporated several chief examiner enhancement suggestions in the as-given administrative section of the examinations.

To support the control room systems and facility walkthrough section of the operating test, the licensee provided 25 job performance measures developed to evaluate selected operator tasks. They were arranged in four sets to administer to the various applicants. There was no day-to-day overlap of specific tasks in the sets. Although individual job performance measures were generally acceptable for administration as submitted, the combinations identified for individual sets did not discriminate at the required level for certain groups of applicants. For example, one set of five job performance measures for two upgrade applicants contained only one job performance measure that had more than minimal discriminatory value and one was considered too simple in that it only required the applicant to identify the failure position of three valves on a drawing for a passing grade.

Similarly, the facility walkthrough subsection of the examination for all the instant senior operator and reactor operator applicants did not discriminate at the required level in that only one of the job performance measures displayed more than minimal discriminatory value and one was considered too simple in that the only action required for a satisfactory grade was to reset the mechanical overspeed trip device on the turbine driven auxiliary feedwater pump. Although this is an important action, it was difficult to demonstrate that the required skill would be discriminatory.

As a result of the above comments, the licensee resubmitted the walkthrough job performance measures prior to an onsite review by NRC examiners. The resubmitted job performance measures were acceptable for administration. Also, the licensee incorporated several examiner suggestions to enhance the overall quality of the examination. For example, after reconsideration, the examiners determined that an additional job performance measure was too simple, in that, it required manipulation of only one component. The licensee replaced it with a more complex task. Also, an appropriate starting point was not identified for a job performance measure and procedure and job performance measure performance steps were in conflict. The licensee made appropriate changes to that job performance measure.

The licensee was also required to submit 2 or more followup questions associated with each walkthrough task. Only 1 followup question was provided for four of the tasks in the initial submittal. For some tasks, 3 questions were submitted without instructions on how they were to be used. The licensee failed to follow guidance provided in NUREG-1021, Appendix C, Section 6, for construction of the followup questions. The majority of the questions were considered direct lookup, which are to be avoided in accordance with Appendix C. Also, most of the questions tested at the memorization and recall level, which is discouraged in Appendix C. Overall, the task followup questions did not discriminate at a high enough level and were considered inadequate for administration. In response to the above comments, the licensee resubmitted the followup questions.

The chief examiner noted improvement in question quality. However, more information was required on a significant number of the 50 questions to allow the chief examiner to verify that the provided solutions were correct. Three of the questions did not satisfy the guidelines in the examiner standards and were rewritten or replaced. Also, 2 other questions were deemed to have been adequately covered in other parts of the examination and were replaced by the licensee.

The job performance measure followup questions were resubmitted by the licensee a second time as a result of the further comments. The operations branch chief and chief examiner determined that 3 of the resubmitted questions could be considered direct lookup. Also, the region provided comments on question construction or outline descriptions for 11 other questions. In addition, the licensee rewrote 1 closed-reference question as an open-reference question to increase the percentage of open-reference questions on the examinations for certain applicants. The licensee made appropriate revisions to the followup questions to address the above comments and the examiners considered the final product acceptable.

The number of iterations required for the licensee to upgrade the systems and facility walkthrough part of the examination to satisfy NUREG-1021 requirements resulted in delaying the administration of the operating test part of the examination from October 20 to December 1, 1997.

c. Conclusions

The licensee initially failed to submit an acceptable examination for administration to operator license applicants for the control room systems and facility walkthrough part of the examination. Several revisions were required by the licensee to produce a product which satisfied examiner standards. This resulted in delaying administration of the operating test part of the examination.

O5.2 Simulation Facility Performance

a. Inspection Scope

The examiners observed simulator performance with regard to fidelity during the examination validation and administration.

b. Observations and Findings

The simulation facility supported examination administration well, but, as described in Attachment 2, minor simulator performance problems were experienced during

examination preparation and administration. These deficiencies had only minor effects on examination validation and administration. Several problems with rod control and position indication systems were noteworthy because similar problems have occurred during previous examinations at this facility.

c. Conclusions

The simulation facility supported examination administration well. Recurring problems with rod control and position indicating systems had minor effects on examination administration and validation.

O5.3 Examination Security

a. Scope

The examiners reviewed examination security both during onsite preparation week and examination administration week for compliance with NUREG-1021 requirements.

b. Observations and Findings

During onsite preparation during the week of October 20, 1997, the examiners observed that examination security was generally good. However, some of the controls were not clearly defined. In one instance an individual not on the examination security agreement walked through two doors posted "Do Not Enter" to enter the simulator instructor booth during the examination validation activities. He was challenged after a few seconds and placed on the examination security agreement. No examination compromise occurred.

Prior to examination administration week, new locksets were installed on all doors leading to the simulator. Keys for these locksets were controlled by the simulator support supervisor and security and issued only to personnel on the security agreement. Also, yellow arm bands with the words "NRC EXAM TEAM" were issued to examination team members to make it clear who was authorized to be in the examination area. This system worked well.

c. Conclusions

After a potential examination compromise incident during the onsite examination preparation week, the licensee implemented an examination security plan which was effective.

O8 Miscellaneous Operations Issues

O8.1 Closed Unresolved Issue 50-498,499/9720-01: Administrative Procedure 0PGP02-ZT-0132, "Licensed Operator Requalification," allowed an exemption from the biennial written and annual operating tests for licensed personnel assigned to the examination development team.

The licensee determined that this allowance was incorporated in the procedure in late 1994 or early 1995. The licensee also confirmed that no licensed personnel actively performing licensed duties had been granted an exemption and that only two licensed, but inactive, operators had been granted this exemption. The licensee had revised the procedure to remove the exemption and ensured that all licensed operators met the requirements of 10 CFR 55.59(c)(4). However, for the period of October 31, 1994, until August 12, 1997, the licensee had granted two individuals examination exemptions contrary to the regulations, which constituted a violation of 10 CFR 50.54(i-1) (50-498,-499/97301-01).

V. Management Meetings

X1 Exit Meeting Summary

The examiners presented the inspection results to members of the licensee management at the conclusion of the inspection on December 5, 1997. The licensee acknowledged the findings presented.

The licensee did not identify as proprietary any information or materials examined during the inspection.

ATTACHMENT 1

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

P. Arrington, Associate Licensing Specialist
J. Calvert, Operations Training Manager
G. Chitwood, Supervising Instructor
W. Cottle, President and Chief Executive Officer
M. DeFrees, Lead Instructor, Licensed Operator Training
B. Dowdy, Unit 2 Operations Manager
J. Lovell, Operations Support Manager
F. Mangan, Vice President, Plant Services
K. Struble, Supervising Instructor
K. Taplett, Licensing Engineer

NRC

D. Loveless, Senior Resident Inspector

ITEMS OPENED AND CLOSED

Opened		
50-498;-499/97301-01	NOV	Failure to ensure all licensed operators were examined (Section O8.1)
Closed		
50-498;-499/9720-01	URI	Review of procedure guidance that provided for the exemption from taking a biennial written and an annual operating examination (Section 08.1)
50-498;-499/97301-01	NOV	Failure to ensure all licensed operators were examined (Section O8.1)

ATTACHMENT 2

SIMULATION FACILITY REPORT

Facility Licensee: STP Nuclear Operating Company

Facility Docket: 50-498; 50-499

Operating Examinations Administered at: South Texas Project

Operating Examinations Administered on: December 1-5, 1997

These observations do not constitute audit or inspection findings and are not, without further verification and review, indicative of noncompliance with 10 CFR 55.45(b). These observations do not affect NRC certification or approval of the simulation facility, other than to provide information, which may be used in future evaluations. No licensee action is required in response to these observations.

Deficiencies Identified During Examination Preparation

- Rods would not move when attempting to recover a dropped rod. This was an initial condition setup problem.
- When attempting to withdraw a Bank D control rod, the step counter did not count up. This problem was corrected prior to examination administration week.
- When loading equipment onto 4.16kV Bus E1A, when the control switch was taken from Pull-to-Lock to AUTO, the breaker for Component Cooling Water Pump 1A closed and then immediately tripped and could not be reclosed following the trip. To ensure that this problem did not interfere with the examination, Component Cooling Water Pump 1A was tagged out-of-service during the scenario.

Deficiencies Identified During Examination Administration

- When recovering a Bank D control rod, the digital rod position indication system did not reflect the rod being withdrawn. The examiners had to cue the outward movement of the rod and the increasing reactor coolant temperature.
- While loading an emergency bus, EAB Supply and Return Fans 11A immediately started and then tripped when taking the control switch from Pull-to-Lock to AUTO. The examiners had to cue the applicants that the fans remained running.

ATTACHMENT 3

FACILITY INITIAL LICENSE EXAMINATION COMMENTS

SOUTH TEXAS PROJECT
(Exam Date Oct. 17, 1997)

Question Analysis

RO/SRO #2 miss rate - 50% : Knowledge deficiency concerning calculation of subcooling

RO/SRO #16 miss rate - 36% : Knowledge deficiency concerning actions to restore IA to containment following a loss of power.

RO/SRO #22 miss rate - 43% : Knowledge deficiency concerning SI system design basis.

RO/SRO #24 miss rate - 36% : Integrated plant knowledge deficiency concerning a pressurizer pressure channel failure.

RO/SRO #31 miss rate - 50% : Knowledge deficiency concerning operation of the N-16 monitors.

RO/SRO #38 miss rate - 36% : Knowledge deficiency concerning auto start signals to the CCW pumps.

RO/SRO #40 miss rate - 43% : Knowledge deficiency concerning when an ALARA hold is implemented.

RO #41 miss rate - 50% : Knowledge deficiency concerning conditions necessary to start a reactor coolant pump per the POP02.

RO #50 miss rate - 33% : Knowledge deficiency concerning RHR temperature control during a loss of instrument air.

RO/SRO #54 miss rate - 64% : Question deficiency (see Applicant comments)

RO/SRO #68 miss rate - 43% : Knowledge deficiency concerning the loss of power to DP 1201.

RO/SRO #79 miss rate - 43% : Knowledge deficiency concerning the basis for entering ES12 from EO10.

RO/SRO #86 miss rate - 71% : Knowledge deficiency concerning steam generator tube leakage Action Levels.

RO/SRO #92 miss rate - 43% : Knowledge deficiency concerning pressurizer level control input failures.

RO #95 miss rate - 33% : Question deficiency (see Applicant comments).

RO/SRO #96 miss rate - 64% : Knowledge deficiency concerning LCO time requirements.

RO #98 miss rate - 33% : Knowledge deficiency concerning the P-13 (P-7) interlock.

SOUTH TEXAS PROJECT
(Exam Date Oct. 17, 1997)

Question Analysis

RO #99 miss rate - 33% : Knowledge deficiency concerning the conditions necessary to open the feedwater isolation valves.

SRO #15 miss rarte - 50% : Question deficiency (see Applicant comments)

SRO #97 miss rate - 50% : Knowledge deficiency concerning the CCW LCO action times.

SOUTH TEXAS PROJECT
(Exam Date Oct. 17, 1997)

Question Breakdown

	Exam			Applicant Choice				
Ques #	RO	SRO	Ans Key	A	B	C	D	Miss Rate %
1	X	X	C	4		10		29
2	X	X	D	4	2	1	7	50
3	X	X	C			14		0
4	X	X	A	14				0
5	X	X	B		14			0
6	X	X	D		2		12	14
7	X	X	B		14			0
8	X	X	A	14				0
9	X	X	A	14				0
10	X	X	C			14		0
11	X	X	D				14	0
12	X	X	C			14		0
13	X	X	C			14		0
14	X	X	D				14	0
15	X		C			6		0
15		X	C	3		5		38
16	X	X	A	9	1	2	2	36
17	X		D				6	0
17		X	C		1	7		13
18	X		B		6			0
18		X	B		6	2		25
19	X	X	A	14				0
20	X	X	B	3	11			21
21	X	X	C			14		0
22	X	X	C	4		8	2	43
23	X	X	D		1		13	7
24	X	X	D		2	3	9	36
25	X	X	B		14			0
26	X	X	D			3	11	21
27	X	X	C			14		0
28	X	X	A	14				0
29	X	X	B	1	13			7
30	X	X	D	1	1	2	10	29
31	X	X	A	7	2	3	2	50
32	X	X	D				14	0

SOUTH TEXAS PROJECT
(Exam Date Oct. 17, 1997)

Question Breakdown

	Exam			Applicant Choice				
Ques #	RO	SRO	Ans Key	A	B	C	D	Miss Rate %
33	X	X	A	12			2	14
34	X	X	D				14	0
35	X	X	A	14				0
36	X	X	C			14		0
37	X	X	C	1		10	3	29
38	X	X	C	1	4	9		36
39	X	X	D		4		10	29
40	X	X	C	1	4	8	1	43
41	X		A	3		2	1	50
41		X	A	8				0
42	X		D				6	0
42		X	A	8				0
43	X		C	5			1	17
43		X	D				8	0
44	X		B		6			0
44		X	B		8			0
45	X		C			6		0
45		X	D	1			7	13
46	X	X	C			14		0
47	X		D				6	0
47		X	C			7	1	13
48	X		A	6				0
48		X	A	7			1	13
49	X		B		6			0
49		X	D				8	0
50	X		C			4	2	33
50		X	B		8			0
51	X		D				6	0
51		X	B		8			0
52	X	X	B		14			0
53	X	X	B	2	11		1	21
54	X	X	C	8	1	5		64
55	X	X	A	13			1	7
56	X	X	D		1		13	7
57	X	X	B		14			0
58	X	X	B		13	1		7

SOUTH TEXAS PROJECT
(Exam Date Oct. 17, 1997)

Question Breakdown

	Exam			Applicant Choice				
Ques #	RO	SRO	Ans Key	A	B	C	D	Miss Rate %
59	X	X	B		11	3		21
60	X		B		13	1		7
61	X		D				6	0
61		X	D				8	0
62	X	X	D		2		12	14
63	X	X	C	2		12		14
64	X	X	A	10	3		1	29
65	X	X	C			13	1	7
66	X	X	D	1			13	7
67	X	X	D			1	13	7
68	X	X	A	8	3	3		43
69	X	X	B		14			0
70	X	X	C	2		10	2	14
71	X	X	B		12	1	1	14
72	X	X	B		14			0
73	X	X	C			14		0
74	X	X	D		2	1	11	21
75	X	X	B		13	1		7
76	X		B		6			0
76		X	D			2	6	25
77	X	X	B		14			0
78	X	X	B		14			0
79	X	X	A	8		6		43
80	X		D				8	0
80		X	B			2	6	25
81	X	X	A	14				0
82	X	X	B		14			0
83	X		D			1	5	17
83		X	D				8	0
84	X	X	D	1			13	7
85	X		C			6		0
85		X	C			8		0
86	X	X	A	4	5	1	4	71
87	X	X	C	1		13		7
88	X	X	C			14		0
89	X	X	D				14	0

SOUTH TEXAS PROJECT
(Exam Date Oct. 17, 1997)

Question Breakdown

	Exam			Applicant Choice				
Ques #	RO	SRO	Ans Key	A	B	C	D	Miss Rate %
90	X		C			6		0
90		X	A	8				0
91	X	X	C			14		0
92	X	X	C	1	4	8	1	43
93	X		D				8	0
93		X	C			6		0
94	X	X	D	1	1		12	14
95	X		B		4		2	33
95		X	C			8		0
96	X	X	B	7	5	1	1	64
97	X		A	6				0
97		X	B	2	4	1	1	50
98	X		A	4			2	33
98		X	C			8		0
99	X		B	2	4			33
99		X	D	1		1	6	25
100	X		B	1	5			17
100		X	D				8	0

SOUTH TEXAS PROJECT
(Exam Date Oct. 17, 1997)

APPLICANT COMMENTS

RO/SRO #16 Answer: A

References: POP04-DJ-0001 Rev 6, Loss of Class 1E 125 VDC Power (Pg 24)

Comment: Lead to believe power was restored, so an operator would not be required. Also leaned this way since the Shift Supervisor directed and the stem didn't say locally.

Resolution: Comment rejected. Actions clearly stated in the procedure.

RO/SRO #24 Answer D

References: POP04-RP-0001, Loss of Automatic Pressurizer Pressure Control
I OT 201.14 Rev 7, Pressurizer Pressure and Level Control

Comment: SI Signal will cause Phase A isolation , isolating Instrument Air to containment and closing the spray valves. Heater groups D and E will stay on to raise pressure to the PORV interlock setpoint. Applicant felt that not enough information was given to unequivocally answer the question.

Resolution: Comment rejected. Question stem stated "no operator action", therefore cooldown from maximum Aux Feedwater flow will result in answer D being correct.

RO/SRO #26 Answer D

References: POP02-ZA-0018 Rev 9, Emergency Operating Procedure User's Guide

Comment: Verify P-4 circuitry and question technically correct.

Resolution: Editorial comment accepted. Answer D is correct provided the initiating signal is no longer present. Question will be revised prior to next use. No changes for this exam.

Additional references: SSPS drawings 387-0100491WN, 492WN, 435WN and 436WN

RO/SRO #30 Answer D

References: POP05-EO-EO30, Steam Generator Tube Rupture

Comment: Should stay in EO30 right after PORV identified and continue on.

Resolution: Comment rejected. Cooldown to Cold Shutdown is not performed in POP05-EO-EO30

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APPLICANT COMMENTS

RO/SRO #31 Answer A

References: PGP03-ZO-0041 Rev 2, Action for Monitoring Primary to Secondary Leakage

Comment: Applicant felt that the N-16 monitors function at this power level.

Monitors are not very accurate, but they are sensitive.

Resolution: Comment rejected. Per the system engineer, the N-16 monitors will not indicate locally or in the Control Room at this power level.

RO/SRO #39 Answer D

References: LOT 202.09 Rev 9, Steam Dump

Comment: Believe steam dump load rejection controller will reduce Tave to no-load.

Resolution: Comment rejected. System circuitry will not allow steam dumps to reduce Tave to Tref as a 3° F deadband exists in the load rejection controller.

RO #41 Answer A

References: POP02-RC-0004 Rev 9, Operation of Reactor Coolant Pump (Pg 10)

Comment: Applicant felt distractor C is also correct since steam generator temperatures are colder.

Resolution: Comment rejected. Procedure clearly supports only answer A to be correct.

RO #45 Answer C

References: POP09-AN-06M3 Rev 6, Annunciator Lampbox 6M03 Response Instructions (Pg 22)

LOT 202.28 Rev 4, Auxiliary Feedwater System (Pg 43)

Comment: Actuation could be reset and runout conditions established manually.

Resolution: Comment rejected. This condition was not provided as an option for answering the question.

APPLICANT COMMENTS

RO/SRO #54 Answer C

References: POP04-RS-0001 Rev 9, Control Rod Malfunction (Pg 10-11)
TS 3/4.1.3.1, Group Height

Comment: During dropped rod recovery, RCS temperature adjustments may be made by boration and/or turbine load changes.

Resolution: Comment accepted. Accept A and C as correct. Procedure clearly states both methods are acceptable (Addendum 1, step 10.0). Tech Specs allow a power increase to 75%.

RO/SRO #59 Answer B

References: POP05-EO-ES03, Natural Circulation Cooldown with Steam Void in Vessel

Comment: Step 1 of ES03 (start a reactor coolant pump), is a continuous action step, therefore answer C should be accepted.

Resolution: Comment accepted. Accept B and C as correct. Establishing conditions to start a reactor coolant pump (step 1) includes verification/establishment of proper delta-T between RCS cold legs and SG temperature (i.e. 10° F).

RO/SRO #70 Answer C

References: LOT504.04 Rev 6, Introduction to Emergency Operating Procedures
POP01-ZA-0018 Rev 9, Emergency Operating Procedure User's Guide
POP05-EO-FRS1 Rev 7, Response to Nuclear Power Generation-ATWS (CIP)
POP05-EO-FRC1 Rev 6, Response to Inadequate Core Cooling (CIP)
POP05-EO-EO30 Rev 8, Steam Generator Tube Rupture (CIP)
POP05-EO-ES12 Rev 12, Post LOCA Cooldown and Depressurization (CIP)

Comment: Clarify in answer C where in ES12 you are (specific step)

Resolution: Editorial comment accepted. Question will be revised prior to next use. No changes for this exam.

APPLICANT COMMENTS

RO/SRO #79 Answer A

References: POP05-EO-EO10 Rev 7, Loss of Reactor Secondary Coolant
WOG Background Document, E-1, LP version

Comment: Break size is determined by physical size and not LHSI pump flow in either the ERG or the FSAR. Applicant felt there was not a correct answer available.

Resolution: Comment rejected. ERGs discuss LHSI pump flow to determine optimal procedure recovery path (ES12 vs. EO10).

RO #83 Answer D

References: POP05-EO-ES13 Rev 5, Transfer to Cold Leg Recirculation
LOT 201.10 Rev 7, Emergency Core Cooling System

Comment: C is also correct since you would check other trains and then come back and perform answer D.

Resolution: Comment rejected. Per the EOP User's Guide, if the Action/Expected Response is not obtained, then the actions in the associated Response Not Obtained column are performed.

RO #95 Answer B

References: TS 3/4.9.2, Instrumentation
TS 3/4.9.5, Communications
TS 3/4.9.8.1, Residual Heat Removal and Coolant Circulation, High Water Level
TS 3/4.9.9, Containment Ventilation Isolation

Comment: Check that D is not technically correct.

Resolution: Comment accepted. Accept B and D as correct. During shutdown conditions, supplementary containment purge is normally in service with the purge valves open. TS 3/4.9.4, Containment Building Penetrations, requires that core alterations be immediately suspended if the penetration is not capable of being closed by an automatic containment purge valve. Question stem does not indicate the condition of the purge valves.

APPLICANT COMMENTS

SRO #15 Answer C

References: TS 3.0.6
PGP03-ZO-0039 Rev 9, Operations Configuration Management

Comment: 3.0.6 does not apply since it does not say you can't make a pump operable.

Resolution: Comment accepted. Delete question. The situation described by answer C is not a violation of TS 3.0.6, therefore no correct answer exists.

SRO #48 Answer A

References: POP03-EO-EO30 Rev 8, Steam Generator Tube Rupture

Comment: Procedure says RCS pressure less than ruptured steam generator pressure and the conditions in the question are RCS and ruptured steam generator pressure are equal.

Resolution: Editorial comment accepted. Question will be revised prior to next use. No changes for this exam.

SRO #99 Answer D

References: POP01-ZQ-0022 Rev 11, Plant Operations Shift Routine

Comment: D should be incorrect as well since this affects methodology and would not be allowed under a field change.

Resolution: Comment rejected. Correction of a technical error does not affect the methodology.