U. S. NUCLEAR REGULATORY COMMISSION
REGION I

DOCKET/REPORT NOS:	50-286/96-06 (OL)
LICENSEES:	New York Power Authority Buchanan, NY 10511
FACILITY:	Indian Point Unit 3
LOCATED AT:	Buchanan, New York
EXAMINATION DATES:	April 15-18, 1996
EXAMINERS:	Paul Bissett, Senior Operations Engineer Steve Barr, Operations Engineer

CHIEF EXAMINER:

Paul Bissett, Sr. Operations Engineer
Operator Licensing and
Human Performance Branch
Division of Reactor Safety

6/11/96
Date

APPROVED BY:

Glenn W. Meyer, Chief
Operator Licensing and
Human Performance Branch
Division of Reactor Safety

6/11/96
Date

EXECUTIVE SUMMARY

Initial licensing examinations were administered to four senior reactor operator instant (SROI) candidates. All four candidates passed all portions of the examination. The candidates were well prepared for the examination and did extremely well on both the written and operational portions of the examination. Communications were clear and concise between crew members, as observed by the examiners during the conduct of several simulator scenarios.

The examiners noted improved performance in the area of emergency planning compared to the previous examination. The previous examination, conducted in December of 1995, noted the candidates' responses to emergency plan questions and evaluations of the scenarios regarding the emergency plan were weak and sometimes not complete. During this examination, the examiners determined acceptable performances in the area of emergency planning.

DETAILS

1.0 SUMMARY OF RESULTS

	SRO Pass/Fail	RO Pass/Fail
Written	4 / 0	0 / 0
Simulator	4 / 0	0 / 0
Walk-through	4 / 0	0 / 0
Overall	4 / 0	0 / 0

2.0 PREEXAMINATION REVIEW

Prior to the administration of the SRO written examinations, several Indian Point 3 (IP3) training and operations department staff members, under security agreement, reviewed the proposed examinations at the IP3 training facility. The review, conducted from April 8-11, 1996, was performed to ensure that the examinations to be administered during the week of April 15, 1996, were content-valid, objective, and performance-based.

Also, all simulator scenarios and job performance measures (JPMs) to be utilized during the examination were validated by the NRC on the IP3 simulator or in the plant, also during April 8-11, 1996. Verification was performed with the assistance of a simulator operator and training staff personnel, who were also under the security agreement.

3.0 Examination Overview

3.1 Written Examination

The written examinations were administered on April 15, 1996, at the IP3 training facility. The senior reactor operator examinations were developed in accordance with the guidelines of 10 CFR 55.41, 55.43, and NUREG-1022, "Examiners Handbook for Developing Operator Licensing Written Examinations." The written examination consisted of 100 questions written in multiple choice format. The examinations and answer keys are enclosed as Attachment 1 to this report. The training department was provided a copy of the as-administered written examinations immediately after the examination administration, as an opportunity to provide comments for any validity issues with the examination questions. No formal comments resulted from this review; however, the answer key to one question was changed as a result of the answer key being in error.

3.2 Weaknesses Identified During the Post-Examination Review

During a review of the graded written examinations, the following generic areas of weakness were identified. A weakness is considered generic if a question was incorrectly answered by half or more of the personnel who were

asked the same question. This information is being provided to assist in upgrading initial and requalification training programs. No response to the below-listed items is needed:

- Knowledge of the design purposes of the containment spray system (#9).
- Knowledge of various Class I systems and/or components (#12).
- Ability to identify conditions that result in a Phase A isolation (#67).
- Knowledge of minimum clearance authorization (#96).
- Ability to identify radiation exposure reduction controls (#98).
- Knowledge of parameters used to define types of confined spaces (#100).

3.3 Operating Test

The operating tests were administered from April 16-17, 1996. The operating tests consisted of two dynamic simulator scenarios and 10 JPMs for each of the four instant SROs. Two oral questions were asked following the completion of each JPM. All candidates were also examined in the area of administrative requirements of the Indian Point 3 facility, in addition to the simulator scenarios and JPMs.

3.3.1 Dynamic Simulator Examination

The four candidates were divided into two crews for the dynamic simulator examination. Each crew was made up of one reactor operator (RO), one balance of plant (BOP) operator, and one senior reactor operator (SRO) position. The BOP position was filled by a surrogate operator, since only two candidates could be evaluated at any one time. Each candidate was evaluated during the conduct of two scenarios and stood alternately the SRO and RO position. In total, four scenarios were run, and all candidates were successful in completing the scenarios under which they were examined. Communications were accomplished effectively throughout the conduct of the scenarios for all crews involved. Command and control efforts and interaction between all crew members were evident throughout all observed scenarios. Procedures were also observed to be executed in a deliberate and controlled manner.

3.3.2 Job Performance Measures (JPMs)

The candidates exhibited generally good performance on the JPMs administered on the simulator. All candidates demonstrated a thorough working knowledge of personal and radiological safety practices and station security requirements.

One problem was experienced with either the simulator or a procedure during the performance of a JPM that encompassed the return of Power Range Drawer N-41 to service. At Step 8.11, Attachment 2, of SOP-NI-1, "Encore Nuclear Instrumentation System Operation," one is instructed to verify that the runback Channel N-41 lamp on the miscellaneous control and indication panel is extinguished. However, during the performance of the JPM, the light remained lit. The examiners were informed that the lamp remained lit as a result of a simulator problem. The examiners requested at the exit meeting that the IP3 facility representatives check this problem to ensure that it indeed was a simulator problem and not a procedural problem. The IP3 facility representatives agreed to review the examiners' requests.

4.0 SUMMARY OF NRC COMMENTS MADE AT THE EXIT MEETING

The NRC expressed appreciation to the training and operations staff for providing assistance during the examination process. The NRC was especially appreciative of the effort expended by various training personnel in providing the appropriate marked-up procedures necessary for the implementation of the JPMs administered in the plant. This effort ensured that the candidates were working with the most recently-approved station procedure and, thus, helped the NRC maintain certain schedule constraints.

The facility written exam reviews and validations of simulator exam materials were exceptionally thorough. The only post-exam comment was the identification of one typographical error in the written exam answer key.

5.0 PERSONNEL CONTACTED

IP3	Title
R. Barrett	Plant Manager
M. Pearson	Operations Manager
R. Robenstein	Supervisor, Operations Training
H. Salomon	VP Nuclear Operations

NRC	Title
P. Bissett	Sr. Operations Engineer/Examiner
S. Barr	Operations Engineer/Examiner
R. Rasmussen	IP3 Resident Inspector

Attachments:
1. Written Examination and Answer Key
2. Simulation Facility Report

ATTACHMENT 1

WRITTEN EXAMINATION AND ANSWER KEY

U. S. NUCLEAR REGULATORY COMMISSION
SITE SPECIFIC EXAMINATION
SENIOR OPERATOR LICENSE

CANDIDATE'S NAME: _____

FACILITY: INDIAN POINT 3

REACTOR TYPE: PWR-WEC4

DATE ADMINISTERED: 96/04/15

INSTRUCTIONS TO CANDIDATE:

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. Points for each question are indicated in parentheses after the question. The passing grade requires a final grade of at least 80%. Examination papers will be picked up four (4) hours after the examination starts.

	TEST VALUE	CANDIDATE'S SCORE	
TOTALS:	100.00	_____	_____%
		FINAL GRADE	

All work done on this examination is my own. I have neither given nor received aid.

_____
Candidate's Signature

ANSWER SHEET

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

MULTIPLE CHOICE

001	a	b	c	d	___
002	a	b	c	d	___
003	a	b	c	d	___
004	a	b	c	d	___
005	a	b	c	d	___
006	a	b	c	d	___
007	a	b	c	d	___
008	a	b	c	d	___
009	a	b	c	d	___
010	a	b	c	d	___
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037	a	b	c	d	___
038	a	b	c	d	___
039	a	b	c	d	___
040	a	b	c	d	___
041	a	b	c	d	___
042	a	b	c	d	___
043	a	b	c	d	___
044	a	b	c	d	___
045	a	b	c	d	___

ANSWER SHEET

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

046	a	b	c	d	___	069	a	b	c	d	___
047	a	b	c	d	___	070	a	b	c	d	___
048	a	b	c	d	___	071	a	b	c	d	___
049	a	b	c	d	___	072	a	b	c	d	___
050	a	b	c	d	___	073	a	b	c	d	___
051	a	b	c	d	___	074	a	b	c	d	___
052	a	b	c	d	___	075	a	b	c	d	___
053	a	b	c	d	___	076	a	b	c	d	___
054	a	b	c	d	___	077	a	b	c	d	___
055	a	b	c	d	___	078	a	b	c	d	___
056	a	b	c	d	___	079	a	b	c	d	___
057	a	b	c	d	___	080	a	b	c	d	___
058	a	b	c	d	___	081	a	b	c	d	___
059	a	b	c	d	___	082	a	b	c	d	___
060	a	b	c	d	___	083	a	b	c	d	___
061	a	b	c	d	___	084	a	b	c	d	___
062	a	b	c	d	___	085	a	b	c	d	___
063	a	b	c	d	___	086	a	b	c	d	___
064	a	b	c	d	___	087	a	b	c	d	___
065	a	b	c	d	___	088	a	b	c	d	___
066	a	b	c	d	___	089	a	b	c	d	___
067	a	b	c	d	___	090	a	b	c	d	___
068	a	b	c	d	___	091	a	b	c	d	___

A N S W E R S H E E T

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

092 a b c d ___

093 a b c d ___

094 a b c d ___

095 a b c d ___

096 a b c d ___

097 a b c d ___

098 a b c d ___

099 a b c d ___

100 a b c d ___

(********** END OF EXAMINATION **********)

NRC RULES AND GUIDELINES FOR LICENSE EXAMINATIONS

During the administration of this examination the following rules apply:

1. Cheating on the examination means an automatic denial of your application and could result in more severe penalties.

2. After the examination has been completed, you must sign the statement on the cover sheet indicating that the work is your own and you have not received or given assistance in completing the examination. This must be done after you complete the examination.

3. Restroom trips are to be limited and only one applicant at a time may leave. You must avoid all contacts with anyone outside the examination room to avoid even the appearance or possibility of cheating.

4. Use black ink or dark pencil ONLY to facilitate legible reproductions.

5. Print your name in the blank provided in the upper right-hand corner of the examination cover sheet and each answer sheet.

6. Mark your answers on the answer sheet provided. USE ONLY THE PAPER PROVIDED AND DO NOT WRITE ON THE BACK SIDE OF THE PAGE.

7. Before you turn in your examination, consecutively number each answer sheet, including any additional pages inserted when writing your answers on the examination question page.

N/A 8. Use abbreviations only if they are commonly used in facility literature. Avoid using symbols such as < or > signs to avoid a simple transposition error resulting in an incorrect answer. Write it out.

9. The point value for each question is indicated in parentheses after the question. (1PT. FOR ALL)

N/A 10. Show all calculations, methods, or assumptions used to obtain an answer to any short answer questions.

11. Partial credit may be given except on multiple choice questions. Therefore, ANSWER ALL PARTS OF THE QUESTION AND DO NOT LEAVE ANY ANSWER BLANK.

N/A 12. Proportional grading will be applied. Any additional wrong information that is provided may count against you. For example, if a question is worth one point and asks for four responses, each of which is worth 0.25 points, and you give five responses, each of your responses will be worth 0.20 points. If one of your five responses is incorrect, 0.20 will be deducted and your total credit for that question will be 0.80 instead of 1.00 even though you got the four correct answers.

13. If the intent of a question is unclear, ask questions of the examiner only.

14. When turning in your examination, assemble the completed examination with examination questions, examination aids and answer sheets. In addition, turn in all scrap paper.

N/A 15. Ensure all information you wish to have evaluated as part of your answer is on your answer sheet. Scrap paper will be disposed of immediately following the examination.

16. To pass the examination, you must achieve a grade of 80% or greater.

17. There is a time limit of four (4) hours for completion of the examination.

18. When you are done and have turned in your examination, leave the examination area (EXAMINER WILL DEFINE THE AREA). If you are found in this area while the examination is still in progress, your license may be denied or revoked.

QUESTION: 001 (1.00)

What is the reason for having rod insertion limits?

a. To ensure a uniform reactivity addition rate while control banks are being used.

b. To ensure adequate shutdown margin when the plant is critical.

c. To prevent unanalyzed flux peaking at low power levels.

d. To ensure sufficient rod worth is available to accomodate plant design transients.

QUESTION: 002 (1.00)

Which one of the following identifies the design of the reactor coolant pump (RCP) Number 2 seal and its source of seal water? Assume all RCP components are functioning as designed.

a. Rubbing face design supplied from the Number 1 seal, leaking 3 gallons per HOUR.

b. Rubbing face design supplied from the Number 1 seal, leaking 3 gallons per MINUTE.

c. Film riding design supplied from the standpipe, leaking 3 gallons per HOUR.

d. Film riding design supplied from the standpipe, leaking 3 gallons per MINUTE.

QUESTION: 003 (1.00)

The Indain Point Unit 3 CVCS mode select is in auto. Identify the expected system response if the VCT level decreases to the setpoint for automatic makeup:

a. The boric acid transfer pumps shift to fast speed, the primary water pumps get a start signal, and a pre-selected blend of boric acid and primary water is added to the VCT. Auto makeup will secure at a VCT level of 35%.

b. The boric acid transfer pumps and the primary water pumps get a start signal, and a pre-selected blend of boric acid and primary water is added to the suction of the charging pumps. Auto makeup will secure at a VCT level of 35%.

c. The boric acid transfer pumps and the primary water pumps get a start signal, and a pre-selected blend of boric acid and primary water is added to the VCT. Auto makeup will secure at a VCT level of 29%.

d. The boric acid transfer pumps shift to fast speed, the primary water pumps get a start signal, and a pre-selected blend of boric acid and primary water is added to the suction of the charging pumps. Auto makeup will secure at a VCT level of 29%.

QUESTION: 004 (1.00)

The plant is operating at full power and steady state conditions when you notice the following indications in the control room:

-- Low charging pressure
-- High letdown temperature
-- Oscillating letdown flow
-- Decreasing pressurizer level

These indications would be characteristic of:

a. a failure of the controlling pressurizer level instrument channel.

b. a break in the CVCS charging line.

c. a break in the CVCS letdown line.

d. the makeup control system being inadvertently left in the manual mode.

QUESTION: 005 (1.00)

While the plant is at 100% power, with all control and protective systems in their normal full power lineup, an equipment failure causes an inadvertent Safety Injection (SI). During the performance of E-0, a control room operator recognizes that the SI was inadvertent and depresses the SI RESET pushbutton about 90 seconds after the SI initiation. The SI does NOT reset.

Which one of the following describes the reason SI did not reset?

a. The equipment failure was still present and inserting the inadvertent SI signal.

b. The load sequencer had not yet completed its timed sequencing thereby locking in the SI signal.

c. The reactor trip breakers had not yet been reset.

d. The time delay circuit for resetting SI had not yet timed out.

QUESTION: 006 (1.00)

The plant is at 100% power, and all control and protective systems are in their normal full power lineup. If the individual rod position indication for a rod cluster control assembly in Control Bank D fails low, what would be the expected plant response?

a. The failure is an instrumentation failure only; there would be no automatic plant response.

b. Turbine load limiters are run back for 23 seconds until turbine load is less than 50%; control rods may insert to control Tavg; steam dumps may actuate.

c. Turbine load limiters are run back for up to 23 seconds until turbine load is less than 70%; control rods may insert to control Tavg; steam dumps may actuate.

d. Turbine load limiters are run back for up to 23 seconds until turbine load is less than 80%; control rods may insert or withdraw to control Tavg; steam dumps may actuate.

QUESTION: 007 (1.00)

Which of the following is a correct statement concerning the Nuclear Instrumentation (NI) system in a post-LOCA environment?

a. The steam voiding in the core increases neutron moderation, and the NI indication will increase.

b. Gamma production severely decreases, and the source range and intermediate range indications will be low due to improper gamma compensation.

c. The injection of cold water into the core increases neutron moderation, and the NI indication will decrease.

d. The steam voiding in the core will allow more neutron leakage, and the NI indicaton will increase.

QUESTION: 008 (1.00)

Which of the following describes the containment atmosphere flowpath through the containment air recirculation cooling and filtration system units during a LOCA?

a. Blow-in door to filtration section to damper D to cooling coils and through the fan.

b. Damper D through the fan to filtration section to cooling coils.

c. Blow-in door through the fan to damper D to filtration section to cooling coils to recirculating air duct.

d. Dampers A,B and C to filtration section to Damper D to cooling coils and through the fan to recirculating air duct.

QUESTION: 009 (1.00)

Which of the following is NOT one of the design purposes of the containment spray system at Indian Point Unit 3?

a. To remove iodine from the containment atmosphere in the event of a fuel cladding break.

b. To provide fire-dousing water for a fire in the containment recirculation fan units.

c. To provide water to fill the reactor cavity prior to refueling.

d. To decrease the pH of the post-accident fluid in the containment recirculation sump.

QUESTION: 010 (1.00)

The IP3 Technical Specifications allow which of the following configurations as a minimum for the containment spray and fan cooler systems?

a. Five fan cooler units and two spray pumps at all times.

b. Five fan cooler units and one spray pump for up to 24 hours.

c. Three fan cooler units and one spray pump for up to 24 hours.

d. Three fan cooler units and two spray pumps for up to 24 hours.

QUESTION: 011 (1.00)

Which of the following is automatically controlled by varying the speed of the main boiler feed pump turbine?

a. Difference between compensated steam flow from all four channels and total feedwater flow.

b. Difference between auctioneered high steam generator pressure and main feedwater header pressure.

c. Difference between main steam header pressure and main boiler feed pump discharge pressure.

d. Difference between average steam generator pressure and main feedwater header pressure.

QUESTION: 012 (1.00)

The Class I (i.e., items vital to the safe shutdown and isolation of the reactor, or whose failure might cause or increase the severity of a LOCA or result in an uncontrolled release of radioactivity) portion of the main feedwater system is:

a. From motor operated main feedwater isolation valves BFD-7-1,-2,-3 and -4 to the steam generators inclusive.

b. From main feedwater check valves BFD-6-1,-2,-3 and -4 to the steam generators inclusive.

c. From the feed regulating valves FCV-417,-427,-437 and -447, and from the low flow bypass valves FCV-417L,-427L,-437L and -447L, to the steam generators inclusive.

d. The main feedwater system is a secondary side system important to power generation but not essential to safe shutdown, and only contains Class II and Class III components.

QUESTION: 013 (1.00)

Which of the below conditions requires the initiation of an emergency boration?

a. An automatic reactor trip has occurred and one control rod failed to insert into the core; Tavg is 547 degrees F.

b. Control rod Control Bank "D" is withdrawing in an uncontrollable manner with the rod control system in Automatic.

c. The "Rod Insertion Low Limit" alarm has annunciated.

d. An uncontrollable RCS cooldown is taking place; Tavg is currently at 490 degrees F.

QUESTION: 014 (1.00)

Which one of the following events should result in the automatic start of auxiliary feedwater pump No. 31?

a. A non-SI blackout on 480 VAC busses 3A and 2A.

b. Main feedwater pressure decreases to 300 psig.

c. An actual water level of 12% in the No. 31 steam generator.

d. No. 31 steam generator level transmitter LT-417B fails low.

QUESTION: 015 (1.00)

How are the motor-driven auxiliary feedwater (AFW) pumps protected from runout conditions at Indian Point Unit 3?

a. AFW flow is measured and provides an input to the AFW regulating valve control circuit to limit pump flow.

b. Maximum AFW flow is limited by the design of the AFW pump flow control valves.

c. AFW pump discharge pressure is measured and provides an input to the AFW regulating valve control circuit to limit pump discharge pressure.

d. AFW pump suction flow is measured and provides an input to the FCV-1121 and -1123 valve controllers to provide recirculation flow back to the pump suction.

QUESTION: 016 (1.00)

Which one of the following is NOT a cause of a rod control system Logic Cabinet ROD CONTROL URGENT FAILURE alarm?

a. Pulser failure

b. Slave Cycler failure

c. Logic error

d. Loose or removed circuit card

QUESTION: 017 (1.00)

What is the required minimum IP3 Technical Specification operability status of the Indian Point Unit 3 125 VDC system in order to take the plant from Cold Shutdown to Hot Standby?

a. Two batteries and two battery chargers operable.

b. Two batteries and three battery chargers operable.

c. Three batteries and two battery chargers operable.

d. Three batteries and three battery chargers operable.

QUESTION: 018 (1.00)

When all component cooling water (CCW) pumps tripped off, a complete loss of CCW occured while IP3 was at 100% power. The control room operators have manually tripped the reactor coolant pumps and the reactor. A few minutes later, while the operators are performing the steps of E-0, the R-14 plant vent gas monitor goes into ALERT and its reading continues to increase. What is the cause of the R-14 performance?

a. The loss of CCW to the R-14 monitor has caused it to generate a false signal and indication.

b. The in-service waste gas compressor has tripped, causing the plant vent relief valve to lift.

c. A leak in the reactor coolant pump thermal barrier heat exchanger has developed, creating an activity release path through the CCW system.

d. The loss of CCW to the waste gas compressor is causing waste gas leakage into the Plant Auxiliary Building.

QUESTION: 019 (1.00)

With the plant operating at 100% power, a health physics technician has determined that both the R-25 and the R-26 vapor containment high range area radiation monitors (ARMs) are performing erratically. Both monitors have been declared inoperable. Per the IP3 Technical Specifications, what ARM should now be used as the alternate monitor for the R-25 and R-26?

a. R-10 ABFP Room ARM

b. R-7 Incore Instrumentation Room ARM

c. R-6 Sampling Room ARM

d. R-2 Vapor Containment ARM

QUESTION: 020 (1.00)

As described in the IP3 Technical Specifications, what is the basis for the alarm setpoints of the Process Radiation Monitoring System?

To ensure that:

a. the dose accumulated at the perimeter of the owner controlled area does not exceed 10 mRem in any one year.

b. the plant release rates do not exceed the 10CFR Part 20 limits.

c. the dose accumulated at the site boundary does not exceed 10CFR Part 100 limits.

d. the assumptions in the IP3 FSAR concerning release rate activity are not challenged.

QUESTION: 021 (1.00)

Indian Point Unit 3 has been in Cold Shutdown for two weeks in order to conduct a mid-cycle maintenance outage. The RCS has been maintained steady-state at 190 degrees F. Your crew has been instructed to begin a plant heatup using the RCPs from these conditions. Per the IP3 RCS limits, what is the maximum temperature rise permitted in the first hour of the heatup?

a. 20 degrees F

b. 35 degrees F

c. 45 degrees F

d. 60 degrees F

QUESTION: 022 (1.00)

The following conditions exist at Unit 3:

Reactor: Hot Shutdown Condition
RCS Temp.: 210 degrees F
RCS Press.: 450 psig

Maintenance is being performed on the containment pressure detectors when an inadvertent SI signal is received by the ECCS circuitry. Which of the following describes the response of the ECCS Accumulators to the inadvertent SI under the given plant conditions?

The accumulators will:

a. discharge into the RCS because the accumulator outlet MOVs (valves 894 A, B, C, & D) will open on the SI signal.

b. discharge into the RCS because the accumulator outlet MOVs (valves 894 A, B, C, & D) are open with their power supply locked out.

c. not discharge into the RCS because the accumulator outlet MOVs (valves 894 A, B, C, & D) are closed with their power supply locked out.

d. not discharge into the RCS because the RCS low pressure SI signal is blocked at 1900 psig.

QUESTION: 023 (1.00)

Indian Point Unit 3 has been at 70% power with steady-state conditions for the past week. During the subsequent return to full power, the reactor operator increases the turbine load without performing any concurrent reactivity changes with rods (rods are in manual) or boron concentration. What effect would this operation have on Tavg and Tref over the next few minutes?

a. Tavg and Tref both increase.

b. Tavg and Tref both decrease.

c. Tavg increases and Tref decreases.

d. Tavg decreases and Tref increases.

QUESTION: 024 (1.00)

Indian Point Unit 3 is operating at 100% power when a perturbation on the grid causes a 180 MWe load rejection. The CCR crew subsequently notes that the "S/G Level Control Deviation" alarm has annunciated. Which of the following caused that alarm to annunciate?

a. High S/G level due to a steam flow/feed flow mismatch.

b. Low S/G level due to a steam flow/feed flow mismatch.

c. High S/G level due to shrink and swell effects.

d. Low S/G level due to shrink and swell effects.

QUESTION: 025 (1.00)

The plant is operating at full power on the mid-shift one night when the operating crew observes the following occur in the order presented:

- Pressurizer level decreasing
- RCS pressure decreasing
- High rad indications on the air ejector and blowdown line radiation monitors
- Charging flow automatically increases
- Pressurizer heaters energize
- Reactor trip on low pressurizer pressure

Which of the following was most likely the cause of the above indications and plant response?

a. Steam generator tube rupture

b. Main steamline break

c. Loss of feedwater accident

d. RCS cold leg leak

QUESTION: 026 (1.00)

With the plant operating at 60% power, which one of the following conditions would require the operating crew to perform an immediate manual reactor trip?

a. RCP No. 31 seal injection temperature is 138 degrees F and increasing at 1 degree F/hour.

b. RCP No. 33 upper bearing temperature is currently at 200 degrees F due to a loss of service water.

c. RCP No. 33 upper bearing temperature is currently at 200 degrees F due to a loss of component cooling water.

d. RCP No. 34 shaft vibration is 17 mils and increasing at 1.5 mils/hour.

QUESTION: 027 (1.00)

The operating crew is performing a plant startup when a number of annunciators alarm in the control room. The operators determine that pressurizer spray valve PCV-455A has gone open approximately 20% and all pressurizer heaters are now energized. Pressurizer pressure continues to slowly decrease. One operator attempts to close the spray valve using manual control but is unsuccessful.

In order to stop the pressure decrease, the crew should FIRST:

a. Remove the fuses from the spray controller in order to get the valve to close.

b. Immediately trip the reactor and initiate a plant cooldown to coincide with the depressurization.

c. Trip the applicable reactor coolant pump in order to reduce spray flow.

d. Energize the pressurizer backup heaters and manually increase charging flow in order to increase RCS pressure.

QUESTION: 028 (1.00)

What effect would a narrow range Tc instrument failing low have on the Over Temperature-Delta Temperature setpoint?

a. Setpoint would increase because the delta-T correction factor has increased.

b. Setpoint would increase because the Tave correction factor has decreased.

c. Setpoint would decrease because the delta-T correction factor has decreased.

d. Setpoint would decrease because the Tave correction factor has decreased.

QUESTION: 029 (1.00)

A plant startup is in progress with reactor and turbine power at 8%. All reactor coolant pumps (RCPs) are in service when RCP No. 34 trips due to a motor malfunction. What would be the expected plant response to the RCP trip?

a. The reactor will trip because the reactor protection system (RPS) logic requires all RCPs to be running with the plant below P-7.

b. The reactor will trip because RPS logic requires all RCPs to be running with the control rod control banks withdrawn.

c. The reactor will not trip because because RPS logic does not require any RCPs to be running below P-7.

d. The reactor will not trip because RPS logic only requires two RCPs to be running below P-8.

QUESTION: 030 (1.00)

Which of the following set of RCS physical connections provides the differential pressure driving force used to provide pressurizer spray?

a. The RCS surge line connection on loop no. 34 and the RCS cold leg connections on loops no. 33 and 34.

b. The RCS surge line connection on loop no. 32 and the RCS cold leg connections on loops no. 33 and 34.

c. The RCS surge line connection on loop no. 34 and the RCS cold leg connections on loops no. 31 and 32.

d. The RCS surge line connection on loop no. 32 and the RCS cold leg connections on loops no. 31 and 32.

QUESTION: 031 (1.00)

Pressurizer level is programmed to change as plant conditions vary. What plant parameter is the primary input for the pressurizer level control system?

a. Nuclear power from the power range NIs.

b. RCS delta-T.

c. Tref.

d. Tave.

QUESTION: 032 (1.00)

At what pressure is the pressurizer relief tank rupture disk designed to rupture?

a. 200 psig.

b. 150 psig.

c. 100 psig.

d. 50 psig.

QUESTION: 033 (1.00)

Which one of the following describes the correct status of the 6.9kV busses two minutes after a reactor trip?

a. Busses 1, 2, 3 and 4 receive power from the emergency diesel generators, and busses 5 and 6 receive power from station auxiliary transformers.

b. Busses 1, 2, 3 and 4 receive power from busses 5 and 6 via automatic bus transfer.

c. Busses 5 and 6 receive power from busses 1, 2, 3 and 4 via automatic bus transfer.

d. Class busses remain energized from station auxiliary transformers, and non-class busses de-energize.

QUESTION: 034 (1.00)

Which of the following describes the expected effect of a SI actuation signal on the 480 VAC safeguard busses?

a. The three EDGs start, the non-essential loads are stripped, and safeguard loads are started.

b. The three EDGs start, the EDG breakers close, and safeguard loads are started.

c. Non-essential loads are stripped, safeguard loads are started, and EDG start logic is enabled (EDGs will start on loss of power).

d. The three EDGs start, all loads are stripped, and safeguard loads are started.

QUESTION: 035 (1.00)

Which of the following are considered Safe Shutdown instrumentation?

a. RCS wide-range pressure and RCS loop no. 32 wide-range temperature.

b. Pressurizer wide-range level and pressurizer relief tank level.

c. RCS loop no. 31 wide-range temperature and source range nuclear instrumentation.

d. Charging flow and wide-range steam generator levels.

QUESTION: 036 (1.00)

Which one of the following is a true statement concerning the reactor trip breakers?

a. Main reactor trip breaker A is tripped by an undervoltage coil that must energize to cause a trip.

b. Reactor trip bypass breaker A is closed from the test racks at the Train B cabinet.

c. If main reactor trip breaker A is closed and reactor trip bypass breaker B is closed, then a reactor trip will occur.

d. Main reactor trip breaker B is tripped by a shunt coil that must de-energize to cause a trip.

QUESTION: 037 (1.00)

Indian Point Unit 3 is at 90% steady-state power, with all systems operating normally and rod control in automatic. Without warning and no operator action, the operating crew observes the following:

- Rods begin to step
- Tavg increases above Tref
- Pressurizer pressure increases
- Pressurizer level rises

Which of the following is occurring?

a. Continuous rod withdrawal.

b. Rod ejection.

c. Continuous rod insertion.

d. Pressurizer vapor space leak.

QUESTION: 038 (1.00)

Indian Point Unit 3 is at full power with all systems operating normally and Control Bank D at 228 steps. Control Bank D rod H6 drops unexpectedly into the core, and the reactor does not trip.

The reactor operator should:

a. Verify reactor and turbine power have both been reduced to 70% or less.

b. Transfer rod control to manual and match Tavg and Tref.

c. Adjust boron concentration to match Tavg and Tref.

d. Manually trip the reactor.

QUESTION: 039 (1.00)

Indian Point Unit 3 is operating at 100% power with all control systems in their normal/automatic lineup when pressurizer level transmitter LT-459 fails low. The reactor operator subsequently selects transmitter LT-461 for pressurizer level control.

Assuming the reactor operator takes no other action, which of the following describes the plant conditions expected a few minutes after LT-461 is selected?

a. Charging flow increasing, letdown flow constant, pressurizer heaters energized.

b. Charging flow decreasing, letdown flow increasing, pressurizer heaters de-energized.

c. Charging flow increasing, letdown flow decreasing, pressurizer heaters de-energized.

d. Charging flow decreasing, letdown flow constant, pressurizer heaters de-energized.

QUESTION: 040 (1.00)

IP3 is experiencing a small-break LOCA with the plant at 100% power and all systems and controls in a normal lineup. Which of the following correctly describes what will happen as RCS pressure decreases as a result of the LOCA?

a. When RCS pressure reaches less than 1920 psig on three of four pressurizer pressure instruments, a trip signal will be generated in both protection trains, and both reactor trip breakers will open.

b. When RCS pressure reaches less than 1920 psig on two of four pressurizer pressure instruments, a trip signal will be generated in one protection train, and both reactor trip breakers will open.

c. When RCS pressure reaches less than 1820 psig on three of four pressurizer pressure instruments, a trip signal will be generated in one protection train, and one reactor trip breaker will open.

d. When RCS pressure reaches less than 1820 psig on two of four pressurizer pressure instruments, a trip signal will be generated in both protection trains, and both reactor trip breakers will open.

QUESTION: 041 (1.00)

Indian Point Unit 3 is operating at 100% power when offsite electrical power is lost and a simultaneous SI signal is generated. The control room crew immmediately enters E-0 and works through to the step where auxiliary feedwater (AFW) pump operation is checked. The crew observes that the turbine-driven AFW pump is running but that the motor driven AFW pumps are not running. Checking the clock, the crew notes that 1 minute and 20 seconds have elapsed since offsite power was lost.

Should the motor-driven AFW pumps be expected to be running by this point? Why?

a. Yes. The non-SI sequence should have stated the motor-driven AFW pumps by now.

b. Yes. The SI sequence should have started the motor-driven AFW pumps by now.

c. No. The non-SI sequence does not start the motor-driven AFW pumps until 90 seconds have elapsed.

d. No. The SI sequence does not start the motor-driven pumps on a loss of offsite power; only the turbine-driven AFW pump is available.

QUESTION: 042 (1.00)

During a startup, with the reactor critical at 1E-8 amps, the breaker from the No. 31 static inverter supply to instrument bus No. 31 trips open. The transfer to the back-up power supply fails, and power is lost to the 120 VAC instrument bus No. 31.

The result of the above will be:

a. A reactor trip due to the de-energization of Intermediate Range channel N35.

b. A reactor trip due to the de-energization of Intermediate Range channel N36.

c. A source range high flux reactor trip due to the de-energization of permissive P-6.

d. The de-energization of several nuclear instrument channels, with no effect on nuclear power.

QUESTION: 043 (1.00)

Indian Point Unit 3 experiences a reactor trip from full power. The control room operators enter E-0 and verify: reactor trip, turbine trip, 480 VAC busses are energized, no safety injection pumps running, and no SI annunciator lit. The operators then check RCS pressure and observe it is 1700 psig and slowly decreasing.

Given the above conditions, SI has:

a. Occurred and is required; the crew should continue in E-0.

b. Occurred but is not required; the crew should terminate the SI.

c. Not occurred but is required; the crew should initiate a manual SI.

d. Not occurred and is not required; the crew should transition to ES-0.1.

QUESTION: 044 (1.00)

The governors on the Emergency Diesel Generators (EDGs) at Indian Point Unit 3, when the EDGs are running in Unit, sense EDG _____ and adjust EDG _____ in order to maintain EDG frequency relatively constant.

a. load; air flow

b. speed; fuel flow

c. load; fuel flow

d. speed; air flow

QUESTION: 045 (1.00)

Which of the following correctly lists actions which occur upon an AMSAC actuation?

a. Main turbine trip and both main boiler feed pumps trip.

b. Both main boiler feed pumps trip and all auxiliary boiler feed pumps start.

c. Main turbine trip and steam generator blowdown and sample valves close.

d. All auxiliary boiler feed pumps start and all main steam isolation valves close.

QUESTION: 046 (1.00)

Which of the following is correct concerning the relationship between a reactor trip and a main turbine trip?

a. When greater than 10% power, a reactor trip occurs when 2/3 autostop pressure transmitters sense less than 45 psig autostop oil pressure.

b. When greater than 10% power, a reactor trip occurs when 2/3 autostop pressure transmitters sense less than 55 psig autostop oil pressure.

c. When greater than 48% power, a reactor trip occurs when 1/3 autostop pressure transmitters sense less than 45 psig autostop oil pressure.

d. When greater than 48% power, a reactor trip occurs when 2/3 autostop pressure transmitters sense less than 55 psig autostop oil pressure.

QUESTION: 047 (1.00)

Indian Point Unit 3 is in a refueling shutdown. You are the refueling SRO and are on the refueling bridge in containment directing fuel movement operations. There is a spent fuel assembly in the mast that has just been pulled from the core when a spent fuel pit level alarm is received in the control room. The control room operator informs you that the alarm has been verified as a low level in the spent fuel pool.

The best location for you to place the assembly currently in the mast is:

a. In the upender and taken to the fuel handling building.

b. In the change fixture.

c. In the transfer cart and placed in the horizontal position.

d. In any accessible core location.

QUESTION: 048 (1.00)

Indian Point Unit 3 is in a refueling outage, and an operator is lowering a fuel assembly into the core with the manipulator crane. At approxiamtely 10 inches above the top of the core, the hoist stops, and the "SLOW ZONE NO. 2 ENTERING CORE" red light illuminates. To continue lowering the assembly the operator must:

a. Use the Jog pushbutton to re-initiate hoist movement.

b. Switch the manipulator hoist speed control to Slow and then re-initiate hoist movement.

c. Place the "Hoist Interlock Bypass" switch in the BYPASS position to re-initiate hoist movement.

d. Raise the assembly back to at least 20 inches above the core to reset the alarm and switch the hoist speed control to Slow to re-initiate hoist movement.

QUESTION: 049 (1.00)

Concerning refueling operations, the Indian Point Unit 3 Technical Specifications require a waiting period of 267 hours prior to a core offload of greater than 72 fuel assemblies. The basis for this specification is:

a. To provide for adequate radioactive decay of fission products such that an accidental release from any one assembly will not exceed the FSAR design basis of the fuel building.

b. To provide for adequate radioactive decay of fission products such that an accidental release from any one assembly will not exceed the 10CFR Part 100 limits for offsite releases.

c. To provide for adequate heat decay such that the maximum fuel pool temperature will not exceed the FSAR design basis.

d. To provide for adequate heat decay such that the reactor vessel temperature has reached the equilibrium temperature assumed in the FSAR accident analyses.

QUESTION: 050 (1.00)

Why is a cold leg LOCA more severe than a hot leg LOCA?

a. Because a cold leg LOCA results in more RCS depressurization until the loop seal is cleared.

b. Because a cold leg LOCA results in higher break flow and lower SI flow until the loop seal is cleared.

c. Because a cold leg LOCA deprives the core of incoming flow and results in quicker core boiling.

d. Because a hot leg LOCA deprives the steam generators of incoming flow and results in a more rapid loss of heat transfer ability.

QUESTION: 051 (1.00)

Which one of the following describes what reflux cooling is?

a. Natural circulation flow from the vessel to the steam generators and returning through the cold legs to the vessel, providing significant cooling during a small-break LOCA.

b. Natural circulation flow from the vessel to the steam generators and returning through the cold legs to the vessel, providing significant cooling during a large-break LOCA.

c. Steam in the hot legs is directed to the steam generators where it is condensed and flows back to the core, providing significant cooling during a small-break LOCA.

d. Steam in the hot legs is directed to the steam generators where it is condensed and flows back to the core, providing significant cooling during a large-break LOCA.

QUESTION: 052 (1.00)

The control room operating crew observes the following plant conditions:

- pressurizer pressure decreasing
- pressurizer level increasing
- containment sump level normal
- steam generator pressure normal
- steam generator level normal
- RCS Tave normal
- reactor power constant

Which of the following is occurring in the plant?

a. An RCS loop or vessel leak that is within the capacity of the charging system.

b. A pressurizer steam space leak.

c. A steam line break that is within the capability of the steam generator water level control system.

d. A steam generator tube rupture.

QUESTION: 053 (1.00)

The control room operating crew observes the following plant conditions:

- Steam generator No. 32 level and pressure rapidly decreasing
- Containment Phase A isolation actuation
- Containment pressure normal

Which of the following is occurring in the plant?

a. Steam generator No. 32 steam or feed line break outside of containment with SI in progress.

b. Steam generator No. 32 steam or feed line break inside of containment with SI in progress.

c. Steam generator No. 32 steam or feed line break outside of containment with no SI in progress.

d. Steam generator No. 32 steam or feed line break upstream of the MSIVs with no SI in progress.

QUESTION: 054 (1.00)

What is safety limit basis for the over-power delta-temperature reactor trip setpoint?

a. Fuel maximum kw/ft.

b. Fuel peak clad temperature.

c. Fuel surface DNBR.

d. RCS over-pressurization.

QUESTION: 055 (1.00)

Indian Point Unit 3 off-normal operating procedure ONOP-C-1, "Loss of Condenser Vacuum," requires the operator to trip the main turbine if which one of the following conditions occurs?

a. The "Turbine Exhaust High Temp 175 degrees F" alarm has been in for 15 minutes.

b. A 2" Hg differential pressure is indicated between main condensers.

c. Main condenser vacuum is at 25" Hg and slowly improving.

d. A 40 degree F differential temperture is indicated between low pressure turbine exhaust hoods.

QUESTION: 056 (1.00)

Which of the following is an automatic action an operator should expect in a loss of component cooling water event?

a. If component cooling flow is lost to the No. 32 header for greater than 2 minutes, an automatic reactor trip will occur.

b. If component cooling pump discharge pressure decreases to less than 125 psig, the standby component cooling pump will start.

c. The RCP thermal barrier return valve, FCV-625, will close on a high flow of 150 gpm.

d. The CVCS temperature control valve, TCV-149, will divert letdown flow to the VCT if letdown temperature exceeds 145 degrees F.

QUESTION: 057 (1.00)

Indian Point Unit 3 is in the Hot Shutdown Condition with the RCS at 225 degrees F and 400 psig, and RHR in service. The operating crew observes decreasing level in component cooling water surge tanks Nos. 31 and 32. Where could a leak have developed which would provide these indications?

a. The non-regenerative heat exchanger.

b. The seal water heat exchanger.

c. The thermal barrier heat exchanger.

d. The RHR heat exchanger.

QUESTION: 058 (1.00)

During a steam generator tube leak event, when does operating procedure ONOP-SG-1, "Steam Generator Tube Leak," call for the operator to close the associated MSIV?

a. As soon as the affected steam generator has been identified.

b. As soon as the steam generator atmospheric relief setpoint has been adjusted to 1040 psig.

c. After the reactor has reached the Hot Shutdown condition.

d. After the main turbine has been shutdown.

QUESTION: 059 (1.00)

Concerning a loss of instrument air event, operating procedure ONOP-IA-1 requires the operator to trip the reactor and go to E-0 if air pressure drops below what value and the situation will not be corrected within a few minutes?

a. 50 psig

b. 60 psig

c. 70 psig

d. 90 psig

QUESTION: 060 (1.00)

Indian Point Unit 3 is operating at 100% power, with the 4,5,6 service water header as the essential header and the Nos. 31 and 35 pumps in operation. The following alarms are received in the control room:

- 480V SWGR MOTOR TRIP (COMMON)
- SERVICE WTR HDR (34,35,36) HIGH LOW PRESS
- SERVICE WATER STRAINER TROUBLE

What action should the operating crew take in response to the alarms?

a. Stop the No. 38 service water pump after it auto starts.

b. Start the No. 38 service water pump.

c. Stop the No. 34 service water pump after it auto starts.

d. Start the No. 34 service water pump.

QUESTION: 061 (1.00)

With the plant at full power, the reactor operator is responding to a valid "ROD INSERTION LOW LOW LIMIT" alarm when he determines that the emergency borate valve, MOV-333, is failed closed and will not open. Per operating procedure ONOP-CVCS-3, "Emergency Boration," what is the first preferred alternate method to emergency borate?

a. Failing the air supply to FCV-110A

b. Aligning the RWST directly to the charging pump suction.

c. Using normal boration at the maximum rate.

d. Rapid depressurization of the RCS to allow the accumulators to inject.

QUESTION: 062 (1.00)

Indian Point Unit 3 is operating at 100% power when a radiation protection technician informs the operating crew that the containment personnel airlock became stuck open when an at-power containment entry was attempted. The SRO recognizes that containment integrity does not exist. How long does the crew have to restore containment integrity before a plant shutdown to the Hot Shutdown condition must be started?

a. 24 hours

b. 8 hours

c. 4 hours

d. 1 hour

QUESTION: 063 (1.00)

Select from the following the correct power supplies which supply fan cooler filter unit recirculation fans Nos. 31 through 35:

a. 480 VAC Bus 2A, 3A, 2A, 5A, 6A, respectively.

b. 480 VAC Bus 5A, 2A, 5A, 3A, 6A, respectively.

c. 480 VAC Bus 2A, 5A, 3A, 5A, 6A, respectively.

d. 480 VAC Bus 6A, 2A, 3A, 5A, 6A, respectively.

QUESTION: 064 (1.00)

Indian Point Unit 3 is in a refueling outage, and the RCS has been drained to the 62' 6" elevation. You are in the control room and observe that RHR flow begins to oscillate and then drop to zero. An operator informs you that actual RCS level is now 61' even. You should instruct the operator to:

a. Start another RHR pump to restore flow.

b. Throttle HCV-638 and -640 to increase RHR flow.

c. Open MOV-882 to restore RCS level.

d. Trip the running RHR pump.

QUESTION: 065 (1.00)

The RHR miniflow valve MOV-1870 is normally throttled and locked, with the power supply removed. The reason for these precautions is:

a. To ensure low-head SI flow is not adversely impacted.

b. To ensure RHR pump runout does not occur.

c. To prevent water hammer effects in the RHR system.

d. To ensure proper NPSH for the RHR pumps.

QUESTION: 066 (1.00)

Approximately one month has passed since Indian Point Unit 3 experienced a large-break LOCA. The following conditions exist concerning vapor containment parameters:

- Containment pressure is 1.2 psig
- Hydrogen concentration is 4.5%
- Hydrogen generation rate is 0.15% per day

The appropriate action for the operating crew to pursue is:

a. No action is necessary since current hydrogen values do not exceed Technical Specification limits.

b. Initiate a lineup to perform a containment venting operation sometime during the current shift.

c. Use the instrument air supply and post-accident hydrogen control system to pressurize and vent the containment.

d. Immediately place the hydrogen recombiners in service.

QUESTION: 067 (1.00)

Which of the following lists ALL signals which will result in a direct containment Phase A isolation?

a. SI, Manual.

b. SI, Phase B, Manual.

c. SI, Hi-Hi Containment Pressure, Manual

d. Hi-Hi Containment Pressure, Manual

QUESTION: 068 (1.00)

Which one of the following is an immediate action step in ECA-0.0, "Loss of All AC Power"?

a. Place the reactor coolant pumps in trip-pull-out.

b. Check if pressurizer PORVs are closed.

c. Energize any 480 VAC bus with an emergency diesel generator.

d. Check all four MSIVs closed.

QUESTION: 069 (1.00)

Indian Point Unit 3 has just experienced a station blackout and a subsequent reactor trip. According to E-0, "Reactor Trip or Safety Injection," all of the following are indications of natural circulation flow EXCEPT:

a. Steam generator pressures are stable or decreasing.

b. Pressurizer pressure is stable or decreasing.

c. Core exit thermocouple temperatures are stable or decreasing.

d. RCS hot leg temperatures are stable or decreasing.

QUESTION: 070 (1.00)

A large-break LOCA has occurred at IP3, and the control room operators have progressed through E-0 and are implementing E-1, "Loss of Reactor or Secondary Coolant." In a short while, the RWST Lo-Lo alarm is received and RWST level indicates less than 11.5 feet. The Control Room Supervisor instructs the RO to initiate the transfer to cold leg recirculation in accordance with ES-1.3, "Transfer to Cold Leg Recirculation." Before the RO takes any action, however, the STA informs the Shift Supervisor that a red path has come in on the core cooling status tree.

At this point, the Shift Supervisor should instruct the RO to:

a. Immediately commence filling the RWST using all available water sources.

b. Continue with ES-1.3, "Transfer to Cold Leg Recirculation."

c. Immediately proceed to FR-C.1, "Response to Inadequate Core Cooling."

d. Immediately proceed to FR-C.2, "Response to Degraded Core Cooling."

QUESTION: 071 (1.00)

Subsequent to a steam generator tube rupture event, the operating crew is performing E-3, "Steam Generator Tube Rupture," and cooling down the RCS. The crew subsequently determines that the cooldown rate has reached approximately 160 degrees F/hour, with the steam dumps full open. At this point the crew should:

a. Continue the cooldown at the maximum rate.

b. Continue the cooldown but at a limit of 100 degrees F/hour.

c. Stop the cooldown completely and only proceed after the cooldown rate is within the Technical Specification reactor vessel thermal limit requirements.

d. Transition to FR-P.1, "Response to Imminent Pressurized Thermal Shock Conditions."

QUESTION: 072 (1.00)

A small-break LOCA has occurred at IP3, and the control room operators are implementing FR-C.1, "Response to Inadequate Core Cooling." Core exit thermocouples are currently reading 1300 degrees F. Why must operators maintain the intact steam generator water levels above the top of the U-tubes during the performance of this procedure?

a. To maintain reflux boiling capability to provide core heat decay removal.

b. To ensure maximum heat transfer capability of the steam generators.

c. To prevent thermal shocking of the steam generator tube sheet.

d. To prevent the loss of heat transfer which would be caused by steam generator depressurization.

QUESTION: 073 (1.00)

Indian Point Unit 3 has experienced a main steam line rupture, and the operating crew has entered FR-P.1, "Response to Imminent Pressurized Thermal Shock," while implementing E-1, "Loss of Reactor or Secondary Coolant." What is the main overall intent of the steps the crew will perform in FR-P.1?

a. Increase the RCS cooldown rate and maintain RCS pressure.

b. Increase the RCS cooldown rate and decrease RCS pressure.

c. Decrease the RCS cooldown rate and decrease RCS pressure.

d. Decrease the RCS cooldown rate and maintain RCS pressure.

QUESTION: 074 (1.00)

Indian Point Unit 3 is operating at 100% power when the shaft on the No. 32 reactor coolant pump (RCP) siezes. Which of the following occurs as a result of the pump failure?

a. OT-delta T runback in the affected loop, followed by a reactor trip caused by the steam-low/feed-flow mismatch in No. 32 steam generator.

b. Reactor trip caused by low level in No. 32 steam generator, followed by a safety injection caused by high steam-flow coincident with low steam pressure in No. 32 steam generator.

c. Reactor trip caused by RCP No. 32 breaker overcurrent, followed by a safety injection caused by low RCS flow.

d. Reactor trip caused by the opening of RCP No. 32 breaker, followed by a safety injection caused by steamline differential pressure.

QUESTION: 075 (1.00)

Following a large increase in plant power, Dose Equivalent I-131 exceeds the 1.0 microcurie/gram IP3 Technical Specification limit by a factor of 10. Why are the plant Technical Specifications allowed to be disregarded in this case, allowing continued plant operation with the elevated I-131 levels for up to 48 hours?

a. Fuel rod expansion during the power increase caused a spike of iodine which was released from pinhole defects in the fuel clad.

b. Corrosion products flushed from the pressurizer surge line during the power increase interfered with the iodine analysis.

c. Changes in xenon concentration resulting from the power increase caused a temporary increase in coolant iodine concentration.

d. Axial power oscillations after the power increase caused xenon concentration oscillations, temporarily affecting iodine concentration.

QUESTION: 076 (1.00)

Which one of the following is the reason that 2200 degrees F is the maximum fuel cladding temperature limit for the Emergency Core Cooling System design criteria in 10CFR Part 50.46?

a. Any cladding temperature greater than 2200 degrees F correlates to a fuel centerline temperature above the fuel melting point.

b. The 2200 degree F value provides a safety margin of approximately 500 degrees F below the clad melting point.

c. The reaction rate of the fuel clad zircaloy with water increases sharply above 2200 degrees F.

d. The thermal conductivity of the fuel clad zircaloy decreases sharply above 2200 degrees F, causing a corresponding increase in fuel centerline temperature.

QUESTION: 077 (1.00)

Indian Point Unit 3 is operating at full power when a small fire occurs in a main generator output potential transformer (PT), causing a failure of the PT. The failure of the PT causes the generator automatic voltage regulator to trip. Which one of the following describes the expected resultant actions, assuming all plant controls and systems are in a normal configuration?

a. A generator trip and 86 lockout will occur.

b. A generator trip will occur but the 86 lockout will not.

c. Main generator output voltage will be controlled by the base adjuster output, which should be the same as the automatic controller output.

d. Main generator output voltage will be controlled by the base adjuster output, which should be at the minimum excitation setpoint.

QUESTION: 078 (1.00)

What is the basis for the IP3 Technical Specification limit on maximum permissible control rod misalignment?

a. To prevent power range NI channels from exceeding thermal power calculation assumptions due to rod shadowing effects.

b. To prevent aggravating excessive xenon oscillations after a large power change.

c. To ensure fuel burnup below the rod tips remains within core design limits.

d. To ensure hot channel factors remain within accident analysis limits.

QUESTION: 079 (1.00)

Indian Point Unit 3 was shutdown 5 days ago, after a 3-month run of 100% power operations. The plant is currently in mid-loop operations, and RCS temperature is 140 degrees F. If the one running RHR pump trips, and no operator action is taken, approximately how long will it take the water in the reactor vessel to reach 200 degrees F?

a. 3 hours

b. 1 hour

c. 30 minutes

d. 10 minutes

QUESTION: 080 (1.00)

Indian Point Unit 3 is in a refueling outage, and the core is being offloaded to the spent fuel pool. The Fuel Storage Building (FSB) systems are aligned for refueling operations. If the FSB area radiation monitor, R-5, alarms under these conditions, which one of the following will occur?

a. The FSB perimeter door seals will become inflated.

b. The FSB supply fan outlet dampers will go closed.

c. The FSB exhaust fan will start running.

d. The FSB roll-up truck door will automatically shut.

QUESTION: 081 (1.00)

Given the following plant conditions:

- The plant is operating at 80% power.
- Both main boiler feed pumps (MBFPs) are in AUTO.
- The "MBFP No. 31 & 32 SPEED CONTROL TROUBLE" annunciator has just alarmed.
- The "% Feedwater" display is blank.
- The "Failure Hold" light is illuminated.
- The "% Hold" display indicates 77%.

Under these conditions, what action is CAUTIONED against by operating procedure ONOP-FW-1, "Loss of Feedwater"?

a. Placing the MBFP controller in manual to control speed.

b. Allowing the track and hold circuitry to maintain control of MBFP speed.

c. Depressing the "Reset Track and Hold" pushbutton to transfer MBFP speed control to the Foxboro speed controller.

d. Dispatching personnel to locally control MBFP speed at the Lovejoy control panel.

QUESTION: 082 (1.00)

A loss of the No. 32 125 VDC distribution panel has just occurred. What effect will this have on the operability of the pressurizer PORVs?

a. The pressurizer PORVs are pressure activated, so their operability will not be affected.

b. One PORV will be inoperable due to the loss of power to its pilot solenoid.

c. PORV operability will be unaffected due to the automatic transfer of the No. 32 inverter power supply to its respective 480 VAC bus.

d. Either one or both PORVs will be inoperable, depending on the CCR control channel switch position.

QUESTION: 083 (1.00)

During a reactor startup, the reactor is critical at 1E-8 amps in the intermediate range. One IR channel has already failed low. If the second channel also fails low, what action will be required of the operating crew?

a. Suspend all positive reactivity additions, and return at least one IR channel to an operable status within one hour or place the reactor in a subcritical condition.

b. De-energize the source range channels to prevent damage to them when they unblock.

c. Manually insert control rods to drive power to the source range until at least one IR channel is operable.

d. Verify the reactor trip and implement E-0, "Reactor Trip or Safety Injection."

QUESTION: 084 (1.00)

Which one of the following describes the whole body Total Effective Dose Equivalent (TEDE) 10CFR Part 20 dose limit and the New York Power Authority (NYPA) administrative dose limit for an adult radiation worker?

a. 10CFR20 - 5 rem; NYPA - 2 rem

b. 10CFR20 - 5 rem; NYPA - 1 rem

c. 10CFR20 - 3 rem; NYPA - 1 rem

d. 10CFR20 - 3 rem; NYPA - 0.5 rem

QUESTION: 085 (1.00)

According to AP-10.1, "Protective Tagging," which one of the following systems shall be grounded and tagged before maintenance may begin on its associated equipment?

a. 6.9 kV Bus Section I electrical switchgear.

b. DC power to the main turbine generator exciter cabinet.

c. 480 VAC Bus 2A electrical switchgear.

d. Nuclear Plant Lighting 120/208 V Bus 33

QUESTION: 086 (1.00)

According to OD-35, "Independent Verification," which one of the following techniques is used to independently verify the position of a locked throttle valve that has no markings or indications of throttled position?

a. Verify the locking device is installed and use process parameters to verify valve position.

b. Verify the locking device is installed and observe the valve stem position.

c. Verify the locking device is installed and attempt to turn the valve handwheel in the closed direction, then return it to its original position.

d. Remove the locking device and turn the valve handwheel in the closed direction until the valve is closed, then open the valve the exact same number of turns and relock the valve.

QUESTION: 087 (1.00)

The IP3 Technical Specifications require which one of the following activities to be directly supervised by an SRO-licensed individual?

a. Radioactive waste releases.

b. Movement of fuel in the core.

c. Reactor startup or shutdown.

d. Turbine load changes.

QUESTION: 088 (1.00)

Indian Point Unit 3 has been taken to the Cold Shutdown Condition for a maintenance outage, and steam generator samples indicate a high dissolved oxygen content. Which one of the following chemicals will be added to the generators to reduce the dissolved oxygen content?

a. Hydrazine

b. Hydrogen

c. Ammonia

d. Ammonium Hydroxide

QUESTION: 089 (1.00)

Indian Point Unit 3 Technical Specifications require the NRC to be immediately notified if which one of the following is violated?

a. Limiting Safety System Setting

b. Limiting Condition for Operation

c. Safety Limit

d. Surveillance test frequency requirement

QUESTION: 090 (1.00)

Indian Point Unit 3 is operating at full power, and the operating crews are on 12-hour shifts. The crew about to be relieved has just served their first shift after normal days off. During shift turnover, one of the on-coming licensed reactor operators calls in and informs you that he is sick and will not be in for his entire shift. Which one of the following will be required to properly staff the oncoming shift?

a. One of the off-going ROs must remain on-shift until the following turnover.

b. One of the off-going ROs must remain on-shift, but not longer than 4 hours.

c. The Shift Manager may authorize the reduction of the on-coming crew complement below the minimum to accomodate the unexpected absence of the RO.

d. The Shift Manager may authorize the on-coming crew to take the shift short-handed, but must find a replacement within 2 hours.

QUESTION: 091 (1.00)

Which of the following represent the four required parts of a message transmitted by security to the control room for a security compromise event?

a. Location, Restriction, Condition, Status

b. Location, Condition, Response, Description

c. Priority Code, Location, Response, Description

d. Condition, Status, Grid, Description

QUESTION: 092 (1.00)

Of the following, which is the only choice for when the STA is not required to be on-shift?

a. The STA has to be on the shift at all times.

b. When the reactor is not critical.

c. When an accident is not in progress.

d. When the reactor is in a Cold Shutdown Condition.

QUESTION: 093 (1.00)

Which of the following represents the approach reactor operators should take towards plant indication validity, as expressed in AP-21, "Conduct of Operations"?

a. Operators should always have a questioning attitude towards plant indications because they may become incorrect especially under adverse conditions.

b. Operators should believe and respond conservatively towards plant indications unless they are proven to be incorrect.

c. Operators should always believe plant indications unless a SRO has directed them otherwise.

d. Operators should always check redundant indications against each other, and if only one indication of a parameter is available, treat it as incorrect until it is independently verified.

QUESTION: 094 (1.00)

According to AP-3, "IP3 Procedure Preparation, Review, and Approval," who has the final approval on a TPC that only contains nonintent changes?

a. Plant Operations Review Committee

b. Operations Manager

c. On-watch Shift Manager

d. Department Manager of the procedure sponsor

QUESTION: 095 (1.00)

What is the function of "HOLD" tags?

a. To control the use of temporary modifications in conjunction with the Temporary Modification Log.

b. To provide additional instruction for the operation of degraded but still operable equipment.

c. To alert personnel not to make any changes to the status of the tagged equipment.

d. To prevent the performance of any further maintenance until QA has inspected the equipment.

QUESTION: 096 (1.00)

In accordance with AP-10.1, "Protective Tagging," what position is the minimum level of authorization permitted to authorize a Clearance?

a. RO

b. On-duty SRO

c. Shift Manager

d. Operations Manager

QUESTION: 097 (1.00)

Which of the following is the correct action for an equipment operator to take when an out-of-specification parameter is discovered while taking logs, as called for in OD-5, "Log Keeping"?

a. No action is required if the out-of-tolerance reading can be explained.

b. Direct another NPO to take action to restore the parameter and verify the reading on the next set of rounds.

c. Provide a verbal report to the Shift Manager at the end of the round.

d. Circle the parameter, note it in the logs, and contact the Control Room Supervisor.

QUESTION: 098 (1.00)

According to AP-7, "Radiation Protection Program," all of the following are examples of engineering controls which can be utilized to reduce radiation exposure EXCEPT:

a. Alarming dosimetry

b. Temporary shielding

c. Equipment decontamination

d. Ventilation

QUESTION: 099 (1.00)

Which of the following lists constitutes an IP3 Fire Brigade, in accordance with AP-27.3, "IP3 Site Fire Protection"?

a. 1 BOP RO, 1 Nuclear-side NPO, 3 Security Guards

b. 1 Shift Manager, 1 Water Factory NPO, 3 Security Guards

c. 1 Shift Manager, 1 Turbine-side NPO, 3 Security Guards

d. 1 BOP RO, 1 Water Factory NPO, 3 Security Guards

QUESTION: 100 (1.00)

What three atmospheric parameters are used to determine the type and potential hazard level of a confined space?

a. Carbon dioxide/monoxide level, Temperature, Oxygen concentration

b. Toxicity, Combustibility, Oxygen concentration

c. Temperature, Pressure, Oxygen concentration

d. Temperature, Toxicity, Combustibility

(********** END OF EXAMINATION **********)

ANSWER: 001 (1.00)

b.

REFERENCE:

Lesson Plan IXC-07, Enabling Objective 9 (Tech Spec 3.10.4)

001000K508 ..(KA's)

ANSWER: 002 (1.00)

a.

REFERENCE:

Lesson Plan NSS-03, Enabling Objective 2.i

003000K103 ..(KA's)

ANSWER: 003 (1.00)

d.

REFERENCE:

Lesson Plan PSA-01, Enabling Objective 5.b

004020A305 ..(KA's)

ANSWER: 004 (1.00)

b.

REFERENCE:

Lesson Plan PSA-01, Enabling Objective 6.c

004020A105 ..(KA's)

ANSWER: 005 (1.00)

d.

REFERENCE:

Lesson Plan ESS-01, Enabling Objective 3

013000A206 ..(KA's)

ANSWER: 006 (1.00)

c.

REFERENCE:

Lesson Plan IXC-08, Enabling Objective 6.b

014000A202 ..(KA's)

ANSWER: 007 (1.00)

d.

REFERENCE:

Lesson Plan IXC-05, Enabling Objective 3.g, page 53 of 60

015000K501 ..(KA's)

ANSWER: 008 (1.00)

a.

REFERENCE:

Lesson Plan ESS-04, Enabling Objective 4.a

022000A301 ..(KA's)

ANSWER: 009 (1.00)

d.

REFERENCE:

Lesson Plan ESS-03, Enabling Objective 1

026000G004 ..(KA's)

ANSWER: 010 (1.00)

b.

REFERENCE:

Lesson Plans ESS-03, Enabling Objective
IP3 Tech Spec 3.3.B.2

026000G005 ..(KA's)

ANSWER: 011 (1.00)

c.

REFERENCE:

Lesson Plan IXC-15, Enabling Objective 2.A

059000K507 ..(KA's)

ANSWER: 012 (1.00)

b.

REFERENCE:

Lesson Plan SPC-05, Enabling Objective 2

059000K601 ..(KA's)

ANSWER: 013 (1.00)

d.

REFERENCE:

Lesson Plan PSA-01, Enabling Objective 7.d, page 26 of 31

004000A409 ..(KA's)

ANSWER: 014 (1.00)

a.

REFERENCE:

LIC-EDS-06, Enabling Objective 5, Page 10 of 26

061000K202 ..(KA's)

ANSWER: 015 (1.00)

c.

REFERENCE:

061000K404 ..(KA's)

ANSWER: 016 (1.00)

c.

REFERENCE:

Lesson Plan IXC-07, Enabling Objective 5.b, page 28 of 43

001050A201 ..(KA's)

ANSWER: 017 (1.00)

d.

REFERENCE:

IP 3 Tech. Spec. 3.7.A.6

063000G005 ..(KA's)

ANSWER: 018 (1.00)

d.

REFERENCE:

Waste Gas Disposal lesson plan objective 6.1.2

071000K402 ..(KA's)

ANSWER: 019 (1.00)

a.

REFERENCE:

Lesson Plan RDM-03, Enabling Objective 10

072000G005 ..(KA's)

ANSWER: 020 (1.00)

b.

REFERENCE:

Lesson Plan RDM-02, Enabling Objective 9

073000G006 ..(KA's)

ANSWER: 021 (1.00)

~~b~~. d.

REFERENCE:

Lesson Plan NSS-01, Enabling Objective 8.b (see page 24 of 30)

002000A103 ..(KA's)

ANSWER: 022 (1.00)

c.

REFERENCE:

Lesson Plan ESS-02, Enabling Objectives 2.e, 3.b

006000K602 ..(KA's)

ANSWER: 023 (1.00)

d.

REFERENCE:

002000K511 ..(KA's)

ANSWER: 024 (1.00)

d.

REFERENCE:

035010K503 ..(KA's)

ANSWER: 025 (1.00)

a.

REFERENCE:

000038A110 ..(KA's)

ANSWER: 026 (1.00)

c.

REFERENCE:

ONOP-RCS-05

008000K301 ..(KA's)

ANSWER: 027 (1.00)

a.

REFERENCE:

ONOP-RCS-02

000027A215 ..(KA's)

ANSWER: 028 (1.00)

b.

REFERENCE:

IP3 Tech Spec 2.3.1.b

012000A205 ..(KA's)

ANSWER: 029 (1.00)

c.

REFERENCE:

IP 3 Tech Spec 2.3.2.b

000015K303 ..(KA's)

ANSWER: 030 (1.00)

a.

REFERENCE:

LIC-NSS-04 Enabling Objective 1

010000K103 ..(KA's)

ANSWER: 031 (1.00)

d.

REFERENCE:

LIC-IXC-10 Enabling Objective 3

011000K404 ..(KA's)

ANSWER: 032 (1.00)

c.

REFERENCE:

LIC-NSS-04 Enabling Objective 2

007000A205 ..(KA's)

ANSWER: 033 (1.00)

b.

REFERENCE:

LIC-EDS-5 Enabling Objective 5

062000A401 ..(KA's)

ANSWER: 034 (1.00)

a.

REFERENCE:

LIC-EDS-06 Enabling Objective 5

064000A307 ..(KA's)

ANSWER: 035 (1.00)

c.

REFERENCE:

0000068K20 ..(KA's)

ANSWER: 036 (1.00)

b.

REFERENCE:

012000A406 ..(KA's)

ANSWER: 037 (1.00)

a.

REFERENCE:

000001A205 ..(KA's)

ANSWER: 038 (1.00)

a.

REFERENCE:

ONOP-RC-1

000003K101 ..(KA's)

ANSWER: 039 (1.00)

d.

REFERENCE:

000028A102 ..(KA's)

ANSWER: 040 (1.00)

d.

REFERENCE:

000009K303 ..(KA's)

ANSWER: 041 (1.00)

b.

REFERENCE:

000056G010 ..(KA's)

ANSWER: 042 (1.00)

b.

REFERENCE:

000057G011 ..(KA's)

ANSWER: 043 (1.00)

c.

REFERENCE:

000007A202 ..(KA's)

ANSWER: 044 (1.00)

b.

REFERENCE:

064000K403 ..(KA's)

ANSWER: 045 (1.00)

c.

REFERENCE:

000029K312 ..(KA's)

ANSWER: 046 (1.00)

a.

REFERENCE:

000029A209 ..(KA's)

ANSWER: 047 (1.00)

d.

REFERENCE:

ONOP-RP-3

000036A104 ..(KA's)

ANSWER: 048 (1.00)

a.

REFERENCE:

034000K601 ..(KA's)

ANSWER: 049 (1.00)

c.

REFERENCE:

033000K505 ..(KA's)

ANSWER: 050 (1.00)

b.

REFERENCE:

000011A101 ..(KA's)

ANSWER: 051 (1.00)

c.

REFERENCE:

000009K101 ..(KA's)

ANSWER: 052 (1.00)

b.

REFERENCE:

000008G011 ..(KA's)

ANSWER: 053 (1.00)

a.

REFERENCE:

000040A101 ..(KA's)

ANSWER: 054 (1.00)

a.

REFERENCE:

000007G004 ..(KA's)

ANSWER: 055 (1.00)

c.

REFERENCE:

ONOP-C-1

000051A202 ..(KA's)

ANSWER: 056 (1.00)

d.

REFERENCE:

000026K302 ..(KA's)

ANSWER: 057 (1.00)

b.

REFERENCE:

000026A105 ..(KA's)

ANSWER: 058 (1.00)

d.

REFERENCE:

ONOP-SG-1

000037A211 ..(KA's)

ANSWER: 059 (1.00)

b.

REFERENCE:

ONOP-IA-1

000065K308 ..(KA's)

ANSWER: 060 (1.00)

d.

REFERENCE:

ARP-12

076000K201 ..(KA's)

ANSWER: 061 (1.00)

c.

REFERENCE:

ONOP-CVCS-3

000024G011 ..(KA's)

ANSWER: 062 (1.00)

d.

REFERENCE:

000069G003 ..(KA's)

ANSWER: 063 (1.00)

b.

REFERENCE:

LIC-ESS-04, Enabling Objective 3, page 7 of 13

027000K201 ..(KA's)

ANSWER: 064 (1.00)

d.

REFERENCE:

000025K202 ..(KA's)

ANSWER: 065 (1.00)

a.

REFERENCE:

LIC-PSA-03, Enabling Objective 2.c, 3.c, page 8 of 41

005000K406 ..(KA's)

ANSWER: 066 (1.00)

c.

REFERENCE:

028000A101 ..(KA's)

ANSWER: 067 (1.00)

a.

REFERENCE:

103000A203 ..(KA's)

ANSWER: 068 (1.00)

b.

REFERENCE:

ECA-0.0

000055G010 ..(KA's)

ANSWER: 069 (1.00)

b.

REFERENCE:

E-0

000055K102 ..(KA's)

ANSWER: 070 (1.00)

b.

REFERENCE:

ES-1.3

000011K315 ..(KA's)

ANSWER: 071 (1.00)

a.

REFERENCE:

E-3

000038K301 ..(KA's)

ANSWER: 072 (1.00)

b.

REFERENCE:

FR-C.1 Background

000074K103 ..(KA's)

ANSWER: 073 (1.00)

c.

REFERENCE:

FR-P.1 Background

000040K304 ..(KA's)

ANSWER: 074 (1.00)

d.

REFERENCE:

ONOP-RCS-1, "Loss of RCS Flow"

000076K119 ..(KA's)

ANSWER: 075 (1.00)

a.

REFERENCE:

IP3 Technical Specification 3.1.D basis

000076G007 ..(KA's)

ANSWER: 076 (1.00)

c.

REFERENCE:

000074K102 ..(KA's)

ANSWER: 077 (1.00)

c.

REFERENCE:

000067A213 ..(KA's)

ANSWER: 078 (1.00)

d.

REFERENCE:

IP3 Technical Specification 3.10.5 basis

000005K303 ..(KA's)

ANSWER: 079 (1.00)

d.

REFERENCE:

ONOP-RHR-2

000025K101 ..(KA's)

ANSWER: 080 (1.00)

a.

REFERENCE:

ONOP-RP-3

000061G010 ..(KA's)

ANSWER: 081 (1.00)

c.

REFERENCE:

ONOP-FW-2

000054G007 ..(KA's)

ANSWER: 082 (1.00)

b.

REFERENCE:

000058A203 ..(KA's)

ANSWER: 083 (1.00)

d.

REFERENCE:

000033A210 ..(KA's)

ANSWER: 084 (1.00)

a.

REFERENCE:

Rad. Pro. Program Manual ES-3

194001K103 ..(KA's)

ANSWER: 085 (1.00)

a.

REFERENCE:

AP-10.1

194001K107 ..(KA's)

ANSWER: 086 (1.00)

a.

REFERENCE:

OD-35

194001K101 ..(KA's)

ANSWER: 087 (1.00)

b.

REFERENCE:

IP3 Technical Specification 6.2.2.e

194001A112 ..(KA's)

ANSWER: 088 (1.00)

a.

REFERENCE:

SOP-SG-2A, "Steam Generator Chemistry Control"

194001A114 ..(KA's)

ANSWER: 089 (1.00)

c.

REFERENCE:

IP3 Technical Specifications

194001A105 ..(KA's)

ANSWER: 090 (1.00)

b.

REFERENCE:

AP-21, "Conduct of Operations"
AP-36, "Overtime Restrictions"

194001A103 ..(KA's)

ANSWER: 091 (1.00)

d.

REFERENCE:

LIC-ONP-5, Enabling Objective 4847.1

194001K105 ..(KA's)

ANSWER: 092 (1.00)

d.

REFERENCE:

LIC-ADP-1, Enabling Objective 4832.1

194001A110 ..(KA's)

ANSWER: 093 (1.00)

b.

REFERENCE:

LIC-ADP-1, Enabling Objective 4832.5
AP-21

194001A113 ..(KA's)

ANSWER: 094 (1.00)

c.

REFERENCE:

LIC-ADP-2, Enabling Objective 0005.2
AP-3, page 12 of 27

194001A101 ..(KA's)

ANSWER: 095 (1.00)

c.

REFERENCE:

LIC-ADP-4, Enabling Objective 0016.1

194001K102 ..(KA's)

ANSWER: 096 (1.00)

c.

REFERENCE:

AP-10.1

194001K102 ..(KA's)

ANSWER: 097 (1.00)

d.

REFERENCE:

OD-36 4.2.6

194001A106 ..(KA's)

ANSWER: 098 (1.00)

a.

REFERENCE:

AP-7, page 6 of 17

194001K104 ..(KA's)

ANSWER: 099 (1.00)

d.

REFERENCE:

AP-27.3

194001K116 ..(KA's)

ANSWER: 100 (1.00)

b.

REFERENCE:

ISP-3.0 "Confined Space Entry"

194001K114 ..(KA's)

(********** END OF EXAMINATION **********)

ANSWER KEY

MULTIPLE CHOICE

001	b
002	a
003	d
004	b
005	d
006	c
007	d
008	a
009	d
010	b
011	c
012	b
013	d
014	a
015	c
016	c
017	d
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019	a
020	b
021	~~b~~ d
022	c
023	d
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025	a
026	c
027	a
028	b
029	c
030	a
031	d
032	c
033	b
034	a
035	c
036	b
037	a
038	a
039	d
040	d
041	b
042	b
043	c
044	b
045	c

ANSWER KEY

046	a	069	b
047	d	070	b
048	a	071	a
049	c	072	b
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051	c	074	d
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055	c	078	d
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058	d	081	c
059	b	082	b
060	d	083	d
061	c	084	a
062	d	085	a
063	b	086	a
064	d	087	b
065	a	088	a
066	c	089	c
067	a	090	b
068	b	091	d

A N S W E R K E Y

092 d

093 b

094 c

095 c

096 c

097 d

098 a

099 d

100 b

(********** END OF EXAMINATION **********)

SRO Exam PWR Reactor

Organized by Question Number

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046	1.00	9000171

047	1.00	9000172
048	1.00	9000173
049	1.00	9000174

S R O E x a m P W R R e a c t o r

O r g a n i z e d b y Q u e s t i o n N u m b e r

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		091	1.00	9000216
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		093	1.00	9000218
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		095	1.00	9000220

096	1.00	9000221
097	1.00	9000222
098	1.00	9000223

S R O E x a m P W R R e a c t o r

O r g a n i z e d b y Q u e s t i o n N u m b e r

		QUESTION	VALUE	REFERENCE
		099	1.00	9000224
		100	1.00	9000225
			100.00	
			100.00	

S R O E x a m P W R R e a c t o r

O r g a n i z e d b y K A G r o u p

PLANT WIDE GENERICS

QUESTION	VALUE	KA
094	1.00	194001A101
090	1.00	194001A103
089	1.00	194001A105
097	1.00	194001A106
092	1.00	194001A110
087	1.00	194001A112
093	1.00	194001A113
088	1.00	194001A114
086	1.00	194001K101
095	1.00	194001K102
096	1.00	194001K102
084	1.00	194001K103
098	1.00	194001K104
091	1.00	194001K105
085	1.00	194001K107
100	1.00	194001K114
099	1.00	194001K116
PWG Total	17.00	

PLANT SYSTEMS

Group I

QUESTION	VALUE	KA
001	1.00	001000K508
016	1.00	001050A201
002	1.00	003000K103
013	1.00	004000A409
004	1.00	004020A105
003	1.00	004020A305
005	1.00	013000A206
006	1.00	014000A202
007	1.00	015000K501
008	1.00	022000A301
009	1.00	026000G004
010	1.00	026000G005
011	1.00	059000K507
012	1.00	059000K601
014	1.00	061000K202
015	1.00	061000K404

017	1.00	063000G005
018	1.00	071000K402
019	1.00	072000G005

S R O E x a m P W R R e a c t o r

O r g a n i z e d b y K A G r o u p

PLANT SYSTEMS

Group I

QUESTION	VALUE	KA
PS-I Total	19.00	

Group II

QUESTION	VALUE	KA
021	1.00	002000A103
023	1.00	002000K511
022	1.00	006000K602
030	1.00	010000K103
031	1.00	011000K404
028	1.00	012000A205
036	1.00	012000A406
063	1.00	027000K201
066	1.00	028000A101
049	1.00	033000K505
048	1.00	034000K601
024	1.00	035010K503
033	1.00	062000A401
034	1.00	064000A307
044	1.00	064000K403
020	1.00	073000G006
067	1.00	103000A203
PS-II Total	17.00	

Group III

QUESTION	VALUE	KA
065	1.00	005000K406
032	1.00	007000A205
026	1.00	008000K301
060	1.00	076000K201
PS-III Total	4.00	
PS Total	40.00	

EMERGENCY PLANT EVOLUTIONS

Group I

S R O E x a m P W R R e a c t o r

O r g a n i z e d b y K A G r o u p

EMERGENCY PLANT EVOLUTIONS

Group I

QUESTION	VALUE	KA
037	1.00	000001A205
038	1.00	000003K101
078	1.00	000005K303
050	1.00	000011A101
070	1.00	000011K315
029	1.00	000015K303
061	1.00	000024G011
057	1.00	000026A105
056	1.00	000026K302
046	1.00	000029A209
045	1.00	000029K312
053	1.00	000040A101
073	1.00	000040K304
055	1.00	000051A202
068	1.00	000055G010
069	1.00	000055K102
042	1.00	000057G011
077	1.00	000067A213
062	1.00	000069G003
076	1.00	000074K102
072	1.00	000074K103
075	1.00	000076G007
074	1.00	000076K119
EPE-I Total	23.00	

Group II

QUESTION	VALUE	KA
043	1.00	000007A202
054	1.00	000007G004
052	1.00	000008G011
051	1.00	000009K101
040	1.00	000009K303
079	1.00	000025K101
064	1.00	000025K202
027	1.00	000027A215
083	1.00	000033A210
058	1.00	000037A211
025	1.00	000038A110

071	1.00	000038K301
081	1.00	000054G007
082	1.00	000058A203
080	1.00	000061G010

SRO Exam PWR Reactor

Organized by KA Group

EMERGENCY PLANT EVOLUTIONS

Group II

QUESTION	VALUE	KA
059	1.00	000065K308
EPE-II Total	16.00	

Group III

QUESTION	VALUE	KA
039	1.00	000028A102
047	1.00	000036A104
041	1.00	000056G010
EPE-III Total	3.00	
EPE Total	42.00	
Test Total	100.00	

ATTACHMENT 2

SIMULATION FACILITY REPORT

Facility Licensee: New York Power Authority

Facility Docket No: 50-286

Operating Tests Administered: 4/15-17/96

This form is to be used only to report observations. 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.

One problem was experienced with either the simulator or a procedure during the performance of a JPM that encompassed the return of power range drawer N-41 to service. At Step 8.11, Attachment 2, of SOP-NI-1, "Encore Nuclear Instrumentation System Operation," one is instructed to verify that the runback Channel N-41 lamp on the miscellaneous control and indication panel is extinguished. However, during the performance of the JPM, the light remained lit. The examiners were informed that the lamp remained lit as a result of a simulator problem.