

UNITED STATES NUCLEAR REGULATORY COMMISSION REGION II 101 MARIETTA STREET, N.W. ATLANTA, GEORGIA 30323

ENCLOSURE 1

EXAMINATION REPORT - 50-250/91-300

Facility Licensee: Florida Power and Light Company

Facility Name: Turkey Point Nuclear Plant

Facility Docket Nos: 50-250 and 50-251

Facility License Nos: DPR-31 and DPR-41

Initial examinations were administered at the Turkey Point Nuclear Plant near Florida City, Florida.

Chief Examiner: Approved By: Charles A. Casto, Chief **Opertor Licensing Section 2**

Division of Reactor Safety

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SUMMARY

Scope: During the weeks of September 23 and October 7, 1991, written examinations and operating tests were administered to eight Reactor Operator (RO) and nine Senior Reactor Operator (SRO) applicants.

Results: Eight SROs and seven ROs (88 percent) passed these examinations. All others failed. No generic candidate weaknesses were noted; however, weaknesses were identified in JPM content (paragraph 3.b). Additionally, several procedural and plant material condition weaknesses were identified (paragraph 3.c). ٠.

REPORT DETAILS

1. Facility Employees Attending Exit Interview

- K. Harris, Senior Vice President
- L. Pearce, Plant Manager
- P. McCullough, Manager, Nuclear Training
- K. Beatty, Training Manager
- V. Kaminskas, Operations Superintendent
- T. Finn, Assistant Operations Superintendent
- H. Johnson, Operations Supervisor D. Powell, Supervisor, Regulatory Compliance
- B. Lindsey, RO/SRO Training Supervisor
- G. Salaman, Licensing Supervisor
- L. Goebel, Simulator Training Coordinator
- R. Dobson, Simulator Engineer

2. Examiners

- *C. Payne, NRC, Region II
- G. Harris, NRC, Region II
- C. Rapp, NRC, Region II
- D. Lane, Sonalysts M. Stein, Sonalysts
- +L. Trocine, Turkey Point Resident Inspector

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*Chief Examiner +Attended Exit Interview Only

- 3. Discussion
 - **Reference Material** a.

The reference material for the examination was adequate. The binding and indexing of material was improved over previous submittals which aided in the efficient development of the examination. However, deficiencies were identified in the Job Performance Measures (JPM) examination material. Nearly all JPMs were found to be out of date. Part of this problem could be attributed to procedural upgrades as part of the large number of recent plant modifications. As a result, significant effort was required at the last minute to make the JPMs functional. The assistance provided by the training staff was appreciated though difficulties remained that impeded the smooth administration of the exam. ٠.

b. Plant Material Condition and Procedure Weaknesses

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Several weaknesses were identified in the plant's material condition and procedures during the walkthrough examinations and are described below.

- (1) Off Normal Operating Procedure (ONOP) ONOP-094.1, Post-Accident Hydrogen Monitor Startup, Step 5-8, directed the operator to unlock and close MPAS-3-005. However, during the walkthrough examination the valve was found not to be locked as expected (though it was open). Investigation by the Plant Supervisor-Nuclear (PS-N) determined that the actual condition of the valve was consistent with P&ID 5610-T-E-4534. The PS-N placed a locking device on the valve until the discrepancy between the procedure and P&ID could be resolved.
- (2) Labels on some important switches and controls did not match those described in the plant procedures. For example, 3-GOP-103, Power Operation to Hot Standby, Step 5.26.4, directed the operator to verify that the status light labelled "SR Trip Blocked" was not lit. This status light was actually labelled "10-5 CPS Trip Blocked" on the vertical panel. In another example 3-OP-067, Process Radiation Monitoring System, Step 5.1.2, directed the operator to turn the filter switch for the Containment Radiation Monitor to the position labelled "OP". This switch position was actually labelled "OPER". The same procedure at step 5.1.2.10 instructed the operator to place the sample selector switch to the position labelled "CON". This switch position was actually labelled "CNTMT". Similarly, procedure ONOP-105, Control Room Evacuation, Step 17, instructed the operator to adjust Emergency Diesel Generator Voltage using a switch labelled "EDG Voltage Reg". The switch on the local diesel generator control panel was actually labelled "Voltage Control".
- (3) Some procedures referred to equipment that no longer existed in the plant. For example, ONOP-1108.1, Reactor Coolant Pump (RCP) Malfunction, Step 5.3.2, instructed the operator to place the control Tavg and Delta-T switches to the bypass position after the RCPs had been tripped. Due to plant modifications these switches no longer exist.
- (4) It was noted that a drain pipe, apparently from the control building roof, was leaking during a heavy thunderstorm. This pipe was in the same room as and in close proximity to the vital bus inverters and concern exists that splashing water may cause a fault in this important equipment.

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(5) Labels on the auxiliary building floor for the post-accident monitoring system were mostly illegible and needed repainting. It was noted that separate labeling schematics were maintained on the wall nearby to assist any operators that may become confused.

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- 4. Follow-up on Previous Inspection Findings
 - a. (Closed) IFI 50-250/0L-11-01: Unclear Wording of Plant Emergency Classification Table Caused Misclassification

The wording in the plant emergency classification table made it unclear whether a Steam Generator Tube Rupture (SGTR) concurrent with a Loss of Coolant Accident (LOCA) should be classified as an Unusual Event or a Site Area Emergency. The examiners reviewed the upgraded classification table and determined that a note had been added to clarify that a SGTR should not be considered a LOCA. The examiners also confirmed that training had been conducted on the change for all operators. During the examination, no candidates had difficulty classifying SGTR events. This item is closed.

b. (Closed) IFI 50-250/OL-11-O2: Response to Turbine Runback Caused by Rod Position Indication (RPI) Failure

Malfunctions to the RPI system may cause the 30 percent dropped control rod turbine runback to occur (on a false dropped rod signal). Proper operator response to this event would be to perform the actions of ONOP-089, Turbine Runback, and then transition to another ONOP for follow-up actions, if appropriate. Operator response would be further complicated by a rod insertion limit (RIL) low-low alarm (typical on this size of a runback) which would require immediate Emergency Boration per ONOP-046.1. Some operators would be tempted to place rods in manual, upon recogni-

tion that the turbine runback was caused by a false dropped rod signal, to avoid an unnecessary emergency boration. This would be a mistake since a large Tavg-Tref mismatch would occur when the turbine runs back its full 30 percent. To avoid this problem, the facility modified ONOP-046.1, Emergency Boration, to require action for an RIL low-low alarm only if the alarm cannot be cleared within one hour. This takes advantage of the latitude provided by Technical Specifications for RIL problems while avoiding unnecessary emergency boration for conditions caused by temporary transient situations. The examiners reviewed the procedure modifications and confirmed that training had been completed on the changes for all operators. It was also noted that ONOP-028.3, Dropped RCC, was modified to add a note that the operator had one hour to restore rod position to within insertion limits per Technical Specifications. This item is closed. (Closed) IFI 50-250/0L-11-03: Operator Response To and Diagnosis Of Instrumentation Induced Anticipated Transients Without Scram

This situation resulted from failure of operator candidates to scram the reactor during an ATWS condition where indications were confusing as to whether an actual ATWS was occurring or not. Current plant procedures for identification and response to an ATWS were found to be adequate by the facility. However, a training weakness was identified as the root cause of this problem. The examiners reviewed the Operations policy letter issued to all licensed operators addressing response to instrument failure caused ATWSs. It was noted that any confirmed indication of an ATWS should be treated as such regardless of other possible contrary indications, and sorting out of the actual situation would occur after the reactor was placed in a shutdown condition. The examiners also determined that this policy letter had been included as part of the ATWS lesson plans. This item is closed.

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5. Exit Interview

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(ATWS)

On October 10, 1991, at the conclusion of the site visit, the examiners met with those persons indicated in paragraph 1 to discuss the status of the examination and any inspection findings. The licensee did not identify as proprietary any material provided to or reviewed by the examiners. No dissenting comments were received from the licensee.

	<u>Item Number</u>		<u>Status</u>	Description
IFI	50-250/0L-91-01	· ·	Closed	Unclear Wording of Plant Emergency Classification Table Caused Misclassification
IFI	50-250/0L-91-02		Closed	Response to Turbine Runback Caused By RPI Failure
IFI	50-250/0L-91-03 :	n R	Closed	Operator Response To and Diagnosis of Instrumentation Induced ATWS

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Nuclear Regulatory Commission Operator Licensing Examination

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This document is removed from Official Use Only category on date of examination.

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NRC Official Use Only

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Plant conditions:

- Rx power at 70%
- Shutdown rods fully withdrawn
- Control Bank C group demand counter at 228 steps Control Bank D group demand counter at 108 steps
- Rod M-8 (Control Bank D) individual rod position at 118 steps

Which ONE of the following describes the MINIMUM action(s) required by Technical Specifications? (Appropriate references are attached).

a. Be in hot standby within six hours.

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- b. Reduce thermal power to 75% or less within one hour.
- c. Reduce thermal power to 65% within two hours.

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d. Reduce thermal power to less than 75% within eight hours.

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QUESTION: 002 (1.00)

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With safety injection actuated from 100% power operation due to low pressurizer pressure, which ONE of the following correctly describes the status of the main steam system?

- a. Main steam stop valves and main steam stop bypass valves both open.
- b. Main steam stop valves open, main steam stop bypass valves shut.
- c. Main steam stop valves shut, main steam stop bypass valves open.
- d. Main steam stop valves and main steam stop bypass valves both shut.

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Plant conditions:

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- Mode 2

- PORVs in automatic

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- PORV PCV-456 opens due to a failure HIGH of pressurizer pressure transmitter PT-445.
- Which ONE of the following correctly describes the effect of this failure on RCS pressure?

Note: Assume no operator action other than that specified.

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- a. Depressurize until PORV shuts automatically at 2000 psig.
- b. Depressurize until alternate pressurizer pressure control channel selected.
- c. Depressurize continuously to new equilibrium pressure based on heat input from RCPs and pressurizer heaters.
- d. Depressurize until safety injection is actuated, then maintain equilibrium pressure based on injection flow.

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QUESTION: 004 (1.00)

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Which ONE of the following describes the purpose of the Pressurizer Surge line low temperature alarm?

- a. Alerts operators to excessive differential temperature between the RCS and the pressurizer.
- b. Alerts operators to high boron concentration in the pressurizer.

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- c. Alerts operators to conditions supporting thermal shock of the pressurizer spray nozzle.
- d. Alerts operators to conditions supporting water hammer on initiation of pressurizer spray.

QUESTION: 005 (1.00)

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Removal of iodine from containment due to a large break LOCA is essentially complete two hours after actuation of the emergency containment filtering system (ECF).

Which ONE of the following describes why filter fan operation is necessary for up to 72 hours?

a. Remove heat from containment.

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b. Remove radioactive particulate from containment.

c. Remove iodine decay heat from ECF charcoal beds.

d. Remove iodine decay products from containment atmosphere.

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QUESTION: 006 (1.00)

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Which ONE of the following correctly states the type of plant event that would PRECEDE purging containment via the post accident containment venting system (PACV)?

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a. Pressurized thermal shock condition.

b. Anticipated transient without scram (ATWS).

c. Loss of secondary heat sink.

d. Inadequate core cooling.

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QUESTION: 007 (1.00)

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With the plant operating at 88% thermal power, the feeder breaker to A SGFP trips on overload. Assume a normal lineup for this power level and that all systems operate as designed.

Which ONE of the following correctly describes the plant response to this casualty?

- a. Runback to 60% power, S/G levels restored in automatic.
- b. Runback to 60% power, idle SGFP and standby condensate pump start, level restored in manual or automatic.
- c. S/G levels decrease until operators reduce power to within the capacity of one SGFP.
- d. S/G levels maintained in either automatic or manual after idle SGFP starts.

QUESTION: 008 (1.00)

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With reactor power at 100% and Load Center 3H energized from Load Center 3D, the feeder breaker from Load Center 3D to Load Center 3H trips on overcurrent.

Which ONE of the following describes the system response to this casualty?

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- a. Load Center 3H remains deenergized until the fault is cleared and the feeder breaker from Load Center 3D is re-shut manually.
- b. Load Center 3H remains deenergized until the feeder breaker from Load Center 3C is shut manually.
- c. Load Center 3H is automatically reenergized from Load Center 3A unless "C" charging pump failed to trip.

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d. Load Center 3C is automatically reenergized from Load Center 3A.

QUESTION: 009 (1.00)

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3A Emergency Diesel Generator (EDG) conditions:

- 3A EDG "ready to start" light "On"
- 3A "Normal Control" light "Off"
- Annunciator F-8/2, EDG TROUBLE ALARM
- 3A Auto Start Bypass selector switch in "Bypass"

With the conditions given above, which ONE of the following describes the 3A EDG response to a loss of offsite power?

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- a. Not start.
- b. Start and accelerate to 450 RPM.

- c. Start, accelerate to 900 RPM, but not load.
- d. Start, accelerate to operating speed, and load.

QUESTION: 010 (1.00)

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While operating in mode 1 with all systems lined up normally, annunciator H-1/6 RADIATION MONITORING SYSTEM CHANNEL FAILURE is received. On inspection, the fail light is found to be illuminated on PRMS channel 18, Waste Disposal System Liquid Effluent Monitor.

Which ONE of the following states the action to be taken?

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- a. Bypass the channel and direct chemistry to take periodic samples.
- b. Direct Nuclear Operator (NO) to shut RCV-014 (gaseous release isolation valve).

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- c. Stop liquid release if in progress and direct chemistry to take required grab samples.
- d. Confirm alarm and refer to OP 5163.2, WDS Controlled Liquid Release to Circulating Water.

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QUESTION: 011 (1.00)

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Plant conditions:

- AREA MONITOR HIGH RADIATION alarm due to R-1, R-2, & R-3 > setpoint
- PROCESS MONITOR HIGH RADIATION alarm due to 3R-11 and 3R-12 > setpoint
- CONTAINMENT HIGH PRESS. SAFEGUARDS AND REACTOR TRIP alarm
- Containment pressure = 12 psig

Assuming all systems operate as designed, which ONE of the following is the most COMPLETE description of plant response to the conditions given above?

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- a. Phase B containment isolation.
- b. Feedwater and main steam line isolation.
- c. Safety injection and phase A containment isolation.
- d. Safety injection and actuation of containment spray.

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QUESTION: 012 (1.00)

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During manual rod withdrawal in mode 2 with banks C and D in the overlap region, outward rod motion continues when the IN-HOLD-OUT switch is returned to the HOLD position.

Which ONE of the following states the immediate operator actions required by this casualty?

a. Place the IN-HOLD-OUT switch to IN.

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b. Manually trip the reactor.

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c. Select a position other than "manual" on the bank selector switch.

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d. Borate or emergency borate, as necessary.

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QUESTION: 013 (1.00)

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Which ONE of the following describes the effect of a rod drop casualty from an initial power of 100%?

a. Rod insertion limit decreases.

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b. QPTR decreases.

c. Shutdown margin increases.

d. AFD increases.

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QUESTION: 014 (1.00)

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Which ONE of the following is positive indication of natural circulation flow?

- a. Core exit thermocouples > Tc.
- b: Tc < Th for at least one loop.

c. Subcooling margin monitor (ICCS) > 20 deg. F. 4

d. Tc within 35 deg. F of Tsat for S/G pressure.

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QUESTION: 015 (1.00)

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While operating at 100% power, annunciator F-1/1, RCP SHAFT VIBRATION, alarms. Recorder 369 shows motor vibration > 5 mils on B RCP; other RCP parameters are normal.

Which ONE of the following should be performed by the operator?

- a. Trip B RCP, verify reactor and turbine trip.
- b. Trip reactor, trip B RCP, and select MANUAL on pressurizer spray valve FCV-3-455A (B loop).
- c. Reduce reactor power per 3-ONOP-100 to P-10, then trip B RCP.
- d. Crosscheck B RCP parameters, reduce power to < P-8, and trip B RCP.

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QUESTION: 016 (1.00)

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Following an alarm on R3-19, S/G blowdown liquid activity, which ONE of the following operator actions should be performed first?

- a. Report conditions to PS-N for possible event classification.
- b. Verify blowdown dump to discharge canal (LCV-6265B) shut.
- c. Monitor air ejector radiation monitor and main steam line radiation to confirm a S/G tube leak.
- d. Direct chemistry to sample steam generators.

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QUESTION: 017 (1.00)

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With a trouble signal locked in for alarm point 1, Turbine Building alarm, which ONE of the following describes the response on Fire Detection Panel C39A to another trouble signal from alarm point 2, Turbine Building alarm?

- a. Yellow light for alarm points 1 and 2, yellow trouble light, and audible trouble alarm.
- b. Yellow light for alarm point 2 and yellow trouble light.
- c. Yellow light for alarm point 1, yellow trouble light, and audible trouble alarm.

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d. Yellow light for alarm points 1 and 2 only.

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Which ONE of the following states the consequence of a failure of the main turbine to trip on reactor trip?

Note: Assume no operator action.

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a. Return to criticality within 1 hour.

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- b. Overspeed of the main turbine.
- c. Actuation of safety injection.
- d. Motorizing the main generator.

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Plant conditions:

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PRT pressure = 6 psig
PRT temperature = 115 deg. F
PRT water level = 72%

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With the conditions given above, which ONE of the following would be expected in the event of a continuous design discharge from the code safety valves?

a. The PRT rupture discs would blow out.

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- b. PRT pressure would remain below design pressure if operators initiate PRT spray.
- c. High backpressure would prevent normal code safety flow.
- d. An explosive oxygen-hydrogen mixture would accumulate in the PRT.

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Which ONE of the following features, systems, or interlocks is designed to prevent an intersystem LOCA due to overpressurizing the RHR piping?

- a. RHR discharge relief valve (RV-706) set at 600 psig.
- b. Auto close RHR hot leg suctions (MOV-750/751) on increasing pressure.
- c. Overpressure mitigating system in low pressure operation.
- d. Auto close RHR suction from RWST (MOV-862A/B) at 210 psig sensed at the RHR pump discharge.

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With annunciator "INTERM RANGE 1 LOSS OF COMP VOLT" activated, which ONE of the following would be expected?

- a. Rod stop at > 1.3E-4 amp (20%) during startup.
- b. Failure of source range to automatically energize on shutdown.
- c. Damage to the source range detectors due to being energized automatically on shutdown while actual power is > P-6.
- d. Reactor trip on startup due to reaching 1.5E-4 amps (25%) before reaching 10% on 2 of 4 power range channels.

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Which ONE of the following explains why the main steam line isolation valves may shut while dumping steam to the condenser during a SGTR casualty?

a. High Steam Flow With Low S/G Pressure trip not blocked.

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b. High High S/G Water Level trip.

c. High S/G - Steam Line Differential Pressure trip.

d. High Steam Flow With Low Tavg trip.

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Which ONE of the following explains why the ALARM ACK pushbutton on the ARMS Control Panel, R-30, should not be depressed until the affected area has bee n evacuated and entry restricted?

- a. Clears all local alarm indications, even when alarm conditions are still present.
- b. Resets alarm relays preventing verification of alarm conditions.

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c. Clears the control room annunciator, removing visual indication of an abnormal condition.

d. Silences the local audible alarm and allows alarm to clear automatically when conditions return to normal.

QUESTION: 024 (1.00)

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Which ONE of the following describes the expected plant response while depressurizing the RCS during a SGTR casualty?

a. Subcooling increases; pzr level increases.

- b. Subcooling increases; pzr level decreases.
- c. Subcooling decreases; pzr level decreases.
- d. Subcooling decreases; pzr level increases.

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Plant conditions:

- "A" S/G has ruptured tube

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- "B" S/G MSIV & bypass shut
- "C" S/G used for cooldown (steam dump to condenser)
- After cooldown has been completed by dumping steam from "C" S/G, subcooling is 22 deg. F

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Which ONE of the following describes ruptured S/G pressure?

a. Pressure in "A" S/G = pressure in "C" S/G.

- b. Pressure in "A" S/G > pressure in "C" S/G.
- c. Pressure in "A" S/G < pressure in "B" S/G.
- d. Pressure in "A" S/G < pressure in "C" S/G.

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If a complete failure of the refueling cavity seal occurs with an irradiated fuel assembly latched on the manipulator crane, which ONE of the following states the approximate time available to fully insert the assembly into the core before radiation exceeds 10R/hour on the refueling bridge?

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- a. 10 minutes.
- b. 20 minutes.
- c. 30 minutes.
- d. 40 minutes.

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QUESTION: 027 (1.00)

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While operating in mode 1 offsite power is lost to Unit 3; emergency diesel generators operate as designed to reenergize the vital buses.

Which ONE of the following describes the operation and final status of the ICW system in response to this casualty?

- a. All ICW pumps trip on loss of power then A and B restart after a time delay; the inlet valves to TPCW close diverting full flow to the CCW heat exchangers.
- b. All ICW pumps trip on loss of power then A and B restart immediately; the inlet valves to TPCW close diverting full flow to the CCW heat exchangers.
- c. All ICW pumps trip on loss of power then A and B restart immediately; flow continues to both the CCW and TPCW heat exchangers.
- d. All ICW pumps trip on loss of power then A and B restart after a time delay; flow continues to both the CCW and TPCW heat exchangers.

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Which ONE of the following must be performed in sequential order unless exception is specifically allowed by the applicable procedure?

a. Establish prerequisites.

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b. Repeated performance of procedure steps with PS-N approval.

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c. Verification of initial conditions.

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d. Performance of valve alignments.
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Which ONE of the following is a proper method to ensure that an operator understands a complex order involving valve numbers given by the RCO?

- a. The RCO provides the order in written form.
- b. The operator makes notes while the order is spoken.
- c. After giving the order, the RCO observes the indications associated with correct performance.
- d. After carrying out the order, the operator reports to the RCO the exact action that was taken.

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Except for values designated as "inaccessible" in the applicable procedure, which ONE of the following must be verified when performing safety related system flowpath verifications?

a. All valves listed on the applicable procedure.

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- b. All valves listed on the applicable procedure except those in locked areas.
- c. All valves listed on the applicable procedure except those exempted by the PS-N.
- d. All valves listed on the applicable procedure except those in contaminated areas.

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Which ONE of the following states the action to be taken by an operator if a valve is found out of position while performing an independent verification?

- a. Place the valve in the correct position and report the discrepancy to the PS-N.
- b. Report the discrepancy to the PS-N so that an investigation can be initiated.
- c. Notify the PS-N and the operator who performed the alignment so the clearance tag can be re-hung on the valve.
- d. Continue with independent verification of remaining components after documenting the discrepancy on the Clearance Order.

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QUESTION: 032 (1.00)

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Which ONE of the following describes the method for checking equipment temperatures by hand?

- a. Use the palm side of the hand because it is more sensitive to heat.
- b. Use the palm side of the hand to reduce the severity of burns because the skin is thicker and tougher.
- c. Use the back of the hand to prevent burns to the palm side of the hand which have a worse effect on tactile sense and dexterity.
- d. Use the back of the hand to reduce the severity of electrical shock.

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QUESTION: 033 (1.00)

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Which ONE of the following is the method for recording late entries in logbooks?

- a. Late entries are to be dated and initialed by the operator making the entry.
- b. Late entries are to be made sequentially as the need is discovered with approval from the PS-N.
- c. Late entries for events from a previous shift are to be immediately reviewed and initialed by the PS-N.
- d. Late entries for events from a previous shift are to be confirmed within 24 hours through communication with a licensed operator from the previous shift.

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QUESTION: 034 (1.00)

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Which ONE of the following states the action to be taken by an Operations Department nuclear operator in the event of a local evacuation of the RCA?

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- a. Exit by most direct route, do not delay for monitoring or removal of protective clothing.
- b. Exit to designated assembly area by route announced on PA; remove protective clothing before exiting.
- c. Exit by route announced on PA; report to the control room.
- d. Exit to the Personnel Dressout Building; self monitor and remove protective clothing before exiting.

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QUESTION: 035 (1.00)

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Which ONE of the following plant personnel must approve Clearance Orders affecting safety related components?

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a. RCO

- b. Clearance Controller
- c. APS-N
- d. NWE

QUESTION: 036 (1.00)

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With the containment emergency cooling units lined up for automatic actuation, which ONE of the following describes the system status indication (s) on VPB?

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CW INLET	CCW OUTLET	CCW BYPASS	CCW FLOW
a. red light "on"	green light "on"	green light "on"	0 gpm
b. green light "on"	green light "on"	green light "on"	0 gpm
c. red light "on"	red light "on"	green light "on"	2000 gpm
d. red light "on"	green light "on"	red light "on"	200 gpm

QUESTION: 037 (1.00)

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Which ONE of the following will cause 3A CS pump to start?

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- a. With the switch on VPB in "stop", a low pressurizer pressure SI signal is received.
- b. With the switch on VPB in "stop", the local control pushbutton at the pump is depressed.
- c. With the switch on VPB in "auto", emergency containment filter unit charcoal filter temperature > 350 degrees F is detected.

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d. With the switch on VPB in "auto", high containment pressure (4 psig) on 2 of 3 sensors occurs.

Which ONE of the following explains why one containment spray (CS) pump is stopped when RWST level reaches 155,000 gallons?

- a. Conserve water for injection to provide core cooling.
- b. Prevent cavitation of the CS pumps.
- c. Allow operators to confirm proper operation of CS before stopping one of two redundant trains.
- d. Ensure adequate NPSH for SI pumps.

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Which ONE of the following describes the reason for selecting 15% as the setpoint for the lo-lo S/G narrow range level reactor trip?

- a. Prevent uncovering tubes due to shrink.
- b. Minimize severity of steam rupture accident.
- c. Prevent loss of S/G narrow range level indication.

d. Ensure no loss of heat sink during startup of AFW.

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QUESTION: 040 (1.00)

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Following an area radiation monitor alarm, which ONE of the following actions should be performed first?

a. Evaluate process monitors and other ARMs for the affected area.

b. Confirm validity of alarm.

c. Announce alarm on PA system.

d. Evacuate affected area.

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QUESTION: 041 (1.00)

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Following retrieval of a dropped rod per ONOP-028.3, "Dropped Rod", the operator fails to reset the Dropped Rod, Rod Stop bistables on ALL affected NIS power ranges. With the runback selector switch in the "NIS" position, which ONE of the following describes the effect on plant operation?

- a. No effect because only auto rod withdrawal is inhibited, a feature that has been disabled.
- b. Reactor power cannot be raised above 70% because a runback signal to the load limit is still present.
- c. Manual rod withdrawal is blocked if any one of the bistables remains tripped.
- d. No effect because the runback selector switch blocks the NIS rod stop and the turbine runback selector switch blocks the turbine runback signal.

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Following a reactor trip and initiation of safety injection due to an unisolable fault on S/G B, conditions associated with AFW are:

- AFW pump C aligned to train 1
- AFW pump A cleared for maintenance
- AFW pump C steam supply MOV failed to open
- AFW pump B discharge pressure = 0 psig
- AFW pump B RPM = 5900 RPM
- AFW flow to S/G A, B, & C = 0 gpm

Which ONE of the following is indicated?

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- a. Steam binding of B AFW pump due to backleakage of steam through the discharge check valves.
- b. Air binding of B AFW pump due to inleakage of air through the mechanical seals.
- c. Inadequate NPSH for B AFW pump due to the suction valve failing shut on loss of air:

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d. Runout conditions on B AFW pump due to low pressure in B S/G.

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QUESTION: 043 (1.00)

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Which ONE of the following is a direct input to the reactor protection system (RPS) that will result in a reactor trip due to turbine trip?

a. 2/2 turbine stop valves closed.

b. 3/3 turbine control valves closed.

c. 2/3 turbine auto stop oil pressure switches < 55 psig.

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d. Main generator lockout.

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QUESTION: 044 (1.00)

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Which ONE of the following is most likely to occur due to loss of 120V Vital Instrument Panel 3P09?

- a. Actuation of pressurizer safeties if spray, heaters, and PORVs are not controlled manually.
- b. Reactor trip on low S/G level if C S/G level not controlled in manual.
- c. Reactor trip on low pressurizer pressure if spray valves are not shut manually.
- d. Reactor trip on high S/G level if runback is not terminated.

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QUESTION: 045 (1.00)

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Which ONE of the following explains why DC loads are reduced per ECA-0.0 during a station blackout?

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- a. Prolongs continuity of power to DC loads by reducing vital battery temperature.
- b. Increases the number of ampere-hours available from the vital batteries by reducing the discharge rate.
- c. Ensures batteries meet design criteria of supplying DC loads for at least two hours.
- d. Ensures batteries meet design criteria of supplying DC loads for at least four hours.

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Plant conditions:

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- 90% reactor power
- A CCW pump running
- B CCW in auto
- C CCW OOS for maintenance

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With the conditions given above, A CCW pump trips on overcurrent and B CCW pump starts automatically. After B CCW pump starts, B CCW pump amps indicate that the pump is cavitating and both A and B header flows are intermittently bouncing off of the low peg of the flow indicator.

Which ONE of the following should be performed first?

- a. Trip the reactor and stop RCPs.
- b. Verify surge tank level greater than 25%; trip reactor and RCPs with motor or pump bearing high temperature alarms.

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c. Crosstie CCW headers if operating with headers split.

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d. Lineup to supply CCW from the other unit.

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QUESTION: 047 (1.00)

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Which ONE of the following correctly describes the way in which alternate power from the spare battery (D52) is supplied to Vital 125 VDC bus 3B?

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a. The spare battery supplies the swing bus section of D-50 with the swing bus breaker to bus 3B shut.

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- b. The spare battery supplies the test bus section of D-50 with the test bus breaker to bus 3B shut.
- c. The spare battery and spare battery charger supply the swing bus section of D-50 with the swing bus breaker to 3B shut.
- d. The spare battery and spare battery charger supply the test bus section of D-50 with the test bus breaker to 3B shut.

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QUESTION: 048 (1.00)

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Plant conditions:

- The plant is operating at 90% power

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- A disturbance on the grid causes unit/turbine load to suddenly drop to 52%.

Which ONE of the following will occur?

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- a. The steam dumps will go full open, the reactor and turbine will trip.
- b. The steam dumps will go full open and the turbine will trip.
- c. The steam dumps will open to prevent a reactor or turbine trip.

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d. The steam dumps will open to prevent a reactor trip but the turbine will trip.

Plant conditions:

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- The reactor is critical at 10 E-8 amps at the end of core life.
- ONE S/G atmospheric steam dump fails open.
- No rod motion.
- No reactor trip.

NOTE: Assume no operator action

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Which ONE of the following describes Tavg and reactor power five minutes into this transient?

- a. Tavg will be greater than initial Tavg, reactor power will be above the point of adding heat.
- b. Tavg will be greater than initial Tavg, reactor power will be at the point of adding heat.
- c. Tavg will be less than initial Tavg, reactor power will be at the point of adding heat.

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d. Tavg will be less than initial Tavg, reactor power will be above the point of adding heat.

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Which ONE of the following conditions will initiate alarm annunciator A-3/2, OMS LOW PRESSURE OPERATION, and require the realignment of the Overpressure Mitigation System (OMS)?

- a. The OMS control selector switch in the LOW PRESSURE position OR the OMS mode switch in AUTO.
- b. The OMS control selector switch in the NORMAL position AND the OMS mode switch in MANUAL.
- c. RCS pressure less than 390 psig AND the OMS mode selector in the NORMAL position.
- d. RCS pressure less than 390 psig OR the OMS control switch in the LOW PRESSURE position.

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QUESTION: 051 (1.00)

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Plant conditions:

- The reactor plant is operating at 50% power.

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- All control systems are in automatic.
- PT-475, "A" steam generator pressure transmitter fails HIGH.

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NOTE: PT-475 provides input to Steam Generator Water Level Control (SGWLCS) and Safeguards Actuation - Steam Line Isolation logic.

Which ONE of the following describes how the plant responds to this failure and the reason for this response? Assume no operator action.

- a. Because the steam flow signal is greater than actual steam flow, steam generator level will increase; steam line isolation is NOT affected.
- b. Because the steam flow signal is less than actual steam flow, steam generator level will decrease; steam line isolation is NOT affected.
- c. Because the steam signal is greater than actual steam flow, steam generator level will decrease; a 1/3 steam line isolation signal is generated because indicated SG pressure is greater than header pressure.
- d. Because the steam flow signal is greater than actual steam flow, steam generator level will increase; a 1/3 steam line isolation signal is generated because indicated SG pressure is greater than header pressure.

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Which ONE of the following could cause an inadvertent dilution accident?

- a. Inadvertant initiation of HHSI during mode 1 operation.
- b. A regenerative heat exchanger tube leak.

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- c. Valving in a demineralizer that was not saturated.
- d. Shift of charging pump suction due to Lo-Lo VCT level.

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Plant conditions:

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- The plant is shutdown.

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- Tavg is 275 deg. F.

Which ONE of the following conditions requires entry into a Technical Specifications action statement.

a. One Auxiliary Feed Pump is INOPERABLE.

b. One Containment spray pump is INOPERABLE.

c. The Post Accident Containment Vent System is INOPERABLE.

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d. Two of the main steam line code safety valves are INOPERABLE.

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QUESTION: 054 (1.00)

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Which ONE of the following statements regarding the use of Temporary Information Tags per AP-103.36, "Control of Operator Aids and Temporary Information Tags" is applicable to Turkey Point Nuclear Station?

a. May be used in place of caution tags.

b. May be used in place of in-plant equipment clearance tags.

c. May be removed by approval of the Plant Supervisor-Nuclear.

d. May be removed by approval of the Reactor Control Operator.

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QUESTION: 055 (1.00)

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For which ONE of the following would a "Release for test" be allowed per O-ADM-212, In-Plant Clearance Orders?

- a. Tests which demonstrate that power supplies for a piece of equipment are free of grounds.
- b. Tests which demonstrate preconditions are satisfied for removing a piece of equipment from service.
- c. Calibrations which are required to prove a piece of equipment will perform its intended function.

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d. Testing that, if satisfactory, will allow final clearance release without re-establishing the clearance boundary.

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Which ONE of the following describes Turkey Point policy on Independent Verification per 0-ADM-031, "Independent Verification"?

- a. Independent verification is used with safety related systems and NOT with quality systems.
- b. Independent verification is meant to be an observation of system line-up and shall NOT require realignment.
- c. Using flow indication is NOT an adequate verification of a valve's position.
- d. Breaker position is to be verified by local indicators and shall NOT be verified by remote indicators.

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QUESTION: 057 (1.00)

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Which ONE of the following is the reason Reactor Coolant Pumps (RCPs) are tripped per EOPs during a small break LOCA?

a. Minimizes two phase flow in the Reactor Coolant System (RCS).

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b. Prevents exceeding 10 CFR 100 limits.

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c. Conserves reactor coolant inventory.

d. Reduces plant electrical loads.

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QUESTION: 058 (1.00)

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Which ONE of the following conditions require a Reactor Coolant Pump (RCP) to be stopped immediately per ONOP 1108.1, "Reactor Coolant Pump Off-Normal Conditions?

a. Seal injection temperature increasing above 130 deg. F with RCS at 385 deg. F.

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- b. Motor stator winding temperature increasing above 235 deg. F.
- c. Pump bearing temperature increasing above 230 deg. F.

d. Motor lower bearing increasing above 190 deg. F.

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The plant was operating in MODE 1 when a fire forced the evacuation of the control room per ONOP-105, "Control Room Evacuation."

Which ONE of the following describes the use of the EOPs?

- a. Use EOP's only for those steps to provide shutdown cooling.
- b. The EOP's shall be used for control room evacuation in modes 1, 2, or 3 only.

c. Following the EOP's as written is mandatory.

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d. EOP's should be used for information only.

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QUESTION: 060 (1.00)

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Which ONE of the following is assumed upon entry into ONOP-105, "Control Room Evacuation"?

- a. Loss of off-site power will not be caused by a control room fire.
- b. Undamaged non-protected components may be loaded onto EDG-B.

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c. One alternate shutdown protected component will fail.

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d. Both units are NOT in MODE 6.

QUESTION: 061 (1.00)

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Which ONE of the following component failures will prevent ALL control rod motion?

- a. A logic cabinet slave cycler failure due to the slave cycler continuing to count after the cycle is complete with no further GO pulses received.
- b. Failure of the following logic cabinet power supplies; one +100 VDC power supply, one +16.5 VDC power supply and one -16.5 VDC power supply.
- c. Failure of the following power cabinet power supplies; one +24 VDC power supply and one -24 VDC power supply.

d. A power cabinet phase failure due to loss of thyristor gating.

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QUESTION: 062 (1.00)

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Which ONE of the following provides the reason for stopping all reactor coolant pumps following a Phase "B" isolation?

- a. To prevent damage to the motor because component cooling water to the RCP thermal barrier and bearing oil coolers is isolated.
- b. To prevent overheating of motor windings because component cooling water to the containment coolers is isolated.
- c. Because seal flow instrumentation lines are isolated which prevents adequate monitoring of seal operation.
- d. Because the seal return isolates which prevents adequate seal cooling and lubrication.

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Which ONE of the following describes the interlock(s) associated with the automatic start of the Component Cooling Water (CCW) pumps?

- a. If CCW pump "A" local remote switch is placed in the "Local" position, the CCW pump is prevented from auto-start on low header pressure.
- b. CCW pump "C" is prevented from auto-start on an Emergency Load Sequencer signal unless CCW "A" is racked out.
- c. When the CCW headers are split, the standby pump will auto-start on low pressure in either the "A" or "B" header.
- d. If Unit 3 is sequencing due to a loss of voltage when an SI and low voltage signal are received on Unit 4, CCW pumps will trip and NOT sequence on again.

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QUESTION: 064 (1.00)

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While responding to inadequate core cooling, the operators are unable to establish high head safety injection. CETs are 1450 deg. F and RCS pressure is 165 psig. Which ONE of the following states the reason for starting the RCPs under these conditions?

- a. Flush nitrogen from S/G tubes so natural circulation flow can be established in subsequent steps.
- b. Provide single phase forced steam flow for temporary cooling to reduce CETs to < 1200 deg. F.

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- c. Assure continued shutdown by adding borated water from the loops to the voided core.
- d. Provide forced primary flow for heat transfer during S/G depressurization.

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Plant conditions:

- LOCA with SI actuation occurred on Unit 3 - SI has been reset per E-0, step 16

With the conditions given above, a loss of offsite power occurs. Which ONE of the following describes the operation of sequencer 3A?

- a. The 3A EDG breaker will close immediately and ICW pump 3A and CCW pump 3A will be started sequentially.
- b. The 3A EDG breaker will close after a 16 second time delay and ICW pump 3A and CCW pump 3A will be started sequentially.
- c. The 3A EDG breaker will close immediately and RHR pump 3A, HHSI pump 3A, ICW pump 3A, and CCW pump 3A will be started sequentially.

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d. The 3A EDG breaker will close after a 16 second time delay and RHR pump 3A, HHSI: pump 3A, ICW pump 3A, and CCW pump 3A will be started sequentially.

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QUESTION: 066 (1.00)

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Which ONE of the following loss of input failures will cause an INVALID . "Rod Banks A/B/C/D Extra Low Limit" alarm?

a. Tavg

b. Tref.

c. NI power range.

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Which ONE of the following parameters when alarming will prevent the 3A emergency diesel generator from auto-starting and loading?

a. Skid tank level.

b. Starting air pressure.

c. Engine prelube oil temperature.

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d. Engine prelube oil pressure.

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Plant conditions:

Plant is operating at 100% power
All systems are in automatic
The following alarms have annunciated:

A-5/1, Charging Pump A Trip A-5/2, Charging Pump B Trip A-5/3, Charging Pump C Trip A-4/6, Volume Control Tank High/Low Level

Which ONE of the following describes the immediate actions per ONOP-047.1, Loss of Charging Flow In Modes 1 Through 3, that should be taken in response to these alarms?

- a. After an unsuccessful start of the "A" Charging pump, isolate letdown by closing the orifice isolation valves.
- b. After a successful start of the "B" Charging pump, isolate letdown by closing the orifice isolation valves.
- c. After a successful start of the "B" Charging pump, close the Seal Return Isolation Valve.
- d. After an unsuccessful start of the "C" Charging pump, open the Seal Return Isolation Valve.

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QUESTION: 069 (1.00)

Plant conditions:

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- Plant startup in Mode 2

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- Power level is 5E-11 amps in the intermediate range

NOTE: Assume all appropriate normal operations have been completed Which ONE of the following describes the immediate action to be taken in response to a failure of Source Range channel N-31?

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- a. Verify reactor trip, if applicable.
- b. Switch the NIS recorder to N-32.
- c. Manually insert all control rods.
- d. Place the Level Trip switch in Bypass.

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A steam generator tube leak is causing the charging system to makeup to the RCS an additional 145 gallons per day.

Which ONE of the following describes this leak?

- a. 3 per cent of the allowable leakage from ONE steam generator.
- b. 10 per cent of the allowable leakage from ALL steam generators.
- c. 20 per cent of the allowable leakage from ONE steam generator.
- d. 30 per cent of the allowable leakage from ALL steam generators.

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Which ONE of the following provides protection against core damage for a total loss of main feedwater (both Main Feedwater pumps tripped)?

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- a. Safety Injection and initiation of Auxiliary Feedwater.
- b. Reactor trip and initiation of Auxiliary Feedwater.
- c. Reactor trip and Safety Injection.

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d. Turbine trip and Reactor trip.

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Which ONE of the following indicates a loss of containment integrity?

a. Containment pressure = 55 psig.

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- b. Containment pressure = 27 psig and CV-204, letdown isolation
 valve, stuck open.
- c. Containment pressure 23 psig and containment spray not operable.
- d. S/G with both a tube rupture and a stuck open safety.

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Following a reactor trip, emergency boration is required due to an uncontrolled cooldown.

Which ONE of the following should be performed FIRST if the emergency boration valve, MOV-350, fails to open from the control room?

- a. Manually open 356 and start a BA transfer pump.
- b. Open LCV-115B and start an additional charging pump.
- c. Manually open emergency boration valve (MOV-350).

d. Open charging pump RWST suction and close VCT suction.

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QUESTION: 074 (1.00)

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The reactor has tripped due to a malfunction in the 3D01 and 3D01A (3A) DC buses. During the past 20 minutes the plant has been stabilized in hot shutdown, but power has not been restored to the 3A DC bus.

Which ONE of the following describes the classification of this event and the reason for the classification?

- a. Unusual Event, because the reactor tripped.
- b. Alert, because batteries failed to power DC bus loads.
- c. Site Area Emergency, because annunciator power has been lost for greater than 15 minutes.
- d. General Emergency, because power to train "A" safeguards equipment has been lost.

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QUESTION: 075 (1.00)

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Which ONE of the following explains why BOTH CRDM fans are normally operating when the plant is in mode 1?

- a. Both fans are required to maintain CRDM temperatures in specification when rod motion is required at normal operating temperature.
- b. Both fans are run because at least one fan is required for operation and the second fan does not start automatically.
- c. With both fans running, balanced flow from the inlet plenum is provided to maintain all CRDMs at approximately the same temperature.
- d. With both fans running, there is no danger of the idle fan tripping on start due to reverse rotation from damper leakage.

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QUESTION: 076 (1.00)

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Which ONE of the following indicates "normal" operation of vital DC bus 3A?

	CHRGER A1 DC OUTPUT	CHRGER A2 DC OUTPUT	BATTTERY CURRENT IN	BATTERY CURRENT OUT
a.	112 A	120 A	2 A	~0 A
b.	140 A	0 A	2 A	0 A
c.	140 A	0 A	0 A	2 A
d.	0 A	133 A	0 A	47 A

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QUESTION: 077 (1.00)

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Which ONE of the following describes the supply of DC control power to load center 3H?

a. Make before break auto transfer switch with power supplies from vital DC buses 4A and 4B.

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- b. Make before break auto transfer switch with power supplies from vital DC buses 3A and 3B.
- c. Break before make auto transfer switch with power supplies from vital buses 4A and 4B.
- d. Break before make auto transfer switch with power supplies from vital buses 3A and 3B.

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Reactor power is 90%. The automatic controller for charging pumps A, B, and C (LC-459G) has failed.

Which ONE of the following describes the immediate actions required per ONOP-41.6, Pressurizer Level Control Malfunction?

NOTE: Enclosure 1 to ONOP-41.6 is attached for reference.

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- a. Select another channel for input to LC-495G and verify pressurizer level controls at 22.2 per cent.
- b. Select another channel for input to LC-495G and verify pressurizer level controls at 41.5 per cent.
- c. Place LC-459G in Manual and maintain pressurizer level at 49.5 per cent.
- d. Place LC-459G in Manual and maintain pressurizer level at 53.3 per cent.

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QUESTION: 079 (1.00)

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Plant conditions:

- The plant is in MODE 6 mid-loop operation.
- LOW flow is indicated on FI-3-605 (RHR Hx outlet to cold legs).

Which ONE of the following is an immediate action per ONOP-050, "Loss of RHR"?

- a. Verify from the control room that the RHR Hx bypass flow controller is operating properly.
- b. Verify from the control room that RHR pumps are running.

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- c. Verify locally that the RHR Hx discharge values are in the open position.
- d. Verify RHR pumps are monitored locally.

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Which ONE of the following is intended to reduce the probability of a S/G tube failure?

- a. Prohibit primary-to-secondary delta-P of > 1200 psid.
- b. Place S/Gs in wet layup if out of service > 24 hours.

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- c. Limit feedwater addition rate in hot S/D to reduce thermal shock.
- d. Use of inverted "J" nozzles in the feedwater distribution ring.

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QUESTION: 081 (1.00)

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Plant conditions following a large break LOCA:

- Containment pressure = 5 psig

- Containment temperature = 188 deg. F
- RCS pressure = 150 psig
- Subcooling = 35 deg. F
- One RHR pump running

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Which ONE of the following should be performed?

a. Trip RCPs, maintain seal injection.

b. Start one HHSI pump; when running, trip RCPs.

c. Trip RCPs, shut seal leak-off valves.

d. Monitor subcooling; at < 30 degrees, trip RCPs.

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Which ONE of the following Functional Restoration Procedures (FRP's) should have first priority if they are all in a red path condition?

a. FR-C.1, "Response to Inadequate Core Cooling"

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- b. FR-Z.1, "Response to High Containment Pressure"
- c. FR-H.1, "Response to Loss of Secondary Heat Sink"
- d. FR-P.1, "Response to Imminent Pressurized Thermal Shock Conditions"

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QUESTION: 083 (1.00)

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Following an SI due to high steam line differential pressure, which ONE of the following indicates that a B S/G safety valve has failed open?

- a. B S/G pressure < A & C S/G pressures; steam header pressure = B S/G pressure.
- b. B S/G pressure = A & C S/G pressures; steam flow indicated on B S/G.
- c. Steam flow indicated on B S/G; no steam flow indicated on A & C S/Gs.
- d. No steam flow indicated on B S/G; steam flow indicated on A & C S/Gs.

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QUESTION: 084 (1.00)

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An Anticipated Transient Without Scram (ATWS) has occurred and ALL steam generators are faulted. FR-S.1, "Response to Nuclear Power Generation/ATWS" requires that at least 25 GPM feed flow be maintained to each steam generator.

Which ONE of the following describes the reason for maintaining 25 gpm feed flow?

- a. Avoids dryout of the steam generator tubes and minimizes steam release to atmosphere.
- b. Lowest feed flow the AFW controllers will control and minimizes steam release to atmosphere.
- c. Lowest feed flow the AFW controllers will control and minimizes reactor flux tilt.

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d. Avoids dryout of the steam generator tubes and is minimum verifiable AFW flow.

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Which ONE of the following requires entry into a Technical Specification Action Statement?

- a. An INOPERABLE Turbine Plant Cooling Water (TPCW) heat exchanger.
- b. An INOPERABLE Component Cooling Water (CCW) heat exchanger.

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c. AN INOPERABLE Intake Cooling Water (ICW) pump.

d. An INOPERABLE Service Water System (SWS) pump.

QUESTION: 086 (1.00)

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Process Radiation Monitoring System (PRMS) monitor R-18, Liquid Radioactive Waste Monitor, is INOPERABLE.

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Which ONE of the following is the limiting condition for operation per Technical Specifications?

- a. Effluent releases cannot be performed until R-18 is returned to an OPERABLE status as specified in Technical Specifications.
- b. Effluent releases may be performed if Grab Samples are sampled every hour during the release as required by Technical Specifications.
- c. Effluent releases may be performed if two independent samples are analyzed per Technical Specifications.
- d. Effluent releases may be performed if sampled before and after the release and analyzed per Technical Specifications.

QUESTION: 087 (1.00)

Plant conditions:

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- The plant is operating at 100% power
- All systems are in automatic.

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- Steam Generator 3C level control is selected to channel III.

Channel III level transmitter fails low. Assume no operator action is taken.

Which ONE of the following describes how Steam Generator 3C level responds and the reason for its response?

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- a. Actual level will initially increase, because the steam flow/feed flow error is larger, then decrease when the feed regulating valve closes.
- b. Actual level will remain approximately the same, because the steam flow/feed flow error is smaller causing the feed regulating valve to remain as is.
- c. Actual level will decrease, because feed flow will decrease due to the level error causing the feed regulating valve to close.
- d. Actual level will increase, because feed flow will increase due to the level error causing the feed regulating valve to open.

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Which ONE of the following completes the following statement?

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According to Technical Specifications for the Main Steam System, the MSIV's must be capable of closing in less than or equal to [1] ______ seconds in order to raise RCS temperature above [2] ______ degrees F.

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- a. [1] 3; [2] 200
- b. [1] 3; [2] 350
- c. [1] 5; [2] 200
- d. [1] 5; [2] 350

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QUESTION: 089 (1.00)

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While operating in mode 1, a spurious alarm occurs intermittently. "REACTOR COOLANT PUMPS SHAFT SEAL WATER LOW DELTA-P" alarm is determined by the PS-N to be a nuisance alarm.

Which ONE of the following is required if the input to the alarm from "C" RCP (PT-154) is defeated?

- a. Immediate notification of I&C by phone or face-to-face communication, temporary information tag if expected time of repair is > 8 hours.
- b. Increased surveillance of "C" RCP shaft seal parameters, immediate notification of I&C supervision, and caution tag hung in preparation for repair.
- c. Temporary system alteration (TSA) shall be implemented, immediate notification of I&C, and verbal direction to operators to monitor "C" RCP shaft seal parameters carefully.

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d. Temporary information tag on annunciator, plant work order (PWO) to I&C, and implementation of documented compensatory measures.

QUESTION: 090 (1.00)

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The last two semi-annual inservice inspections of a plant pump were accomplished on September 29, 1990 and April 1, 1991.

Which ONE of the following dates is the LATEST date on which this inspection can be accomplished without exceeding the periodicity required by Technical Specifications?

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a. October 2, 1991

b. November 17, 1991

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c. January 2, 1992

d. March 31, 1992

QUESTION: 091 (1.00)

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Which ONE of the following statements applies to the operator's use of Critical Safety Function Status Trees at Turkey Point Nuclear Station?

- a. If all paths are green and/or yellow, the trees should be continuously monitored if plant conditions are changing rapidly.
- b. Any yellow path requires continuous monitoring until all conditions are satisfied.
- c. If any orange path is encountered, monitor the orange path and all remaining trees. If a red path is encountered for any lower priority safety condition, continue to monitor the orange path with the higher priority condition.
- d. If any red path is encountered during the conduct of immediate action steps in E-0, "Reactor Trip or Safety Injection", immediately stop and perform the Functional Restoration Procedure (FRP) required by the path.

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With Units 3 and 4 both in mode 1, which ONE of the following states the MINIMUM crew composition required in the control room at all times, excluding the PS-N?

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- a. 1 SRO and 2 ROs.
- b. 1 SRO, 2 ROs, and 1 STA.

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c. 1 SRO and 1 RO.

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d. 2 ROs.

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QUESTION: 093 (1.00)

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Which ONE of the following requires ONE hour notification of the NRC?

a. Accident causing the loss of all road access to the plant.

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- b. An individual receives 5 rem dose to the whole body.
- c. Accident resulting in damage in excess of \$2,000.
- d. An accident on-site resulting in two fatalities.

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QUESTION: 094 (1.00)

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Which ONE of the following states the whole body exposure limit allowed for rescue of a person from a life threatening situation under emergency conditions?

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- a. 12 Rem.
- b. 25 Rem.
- c. 75 Rem.
- d. 100 Rem.

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Plant conditions:

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- PORV/RELIEF VALVE OPEN alarm
- PRESSURIZER RELIEF LINE HIGH TEMP alarm
- Code safeties tailpiece temps = 188 deg. F
- PRT pressure = 9 psig

Which ONE of the following is indicated by the conditions presented above?

- a. PORV open, block valve open.
- b. PORV open, block valve shut.
- c. PORV shut, safety open.

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d. PORV open, block valve open, & safety open.

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Conditions associated with "A" S/G:

Power level = 100%
Steam flow = 3.2E6 lbm/hr
Feed flow = 2.8E6 lbm/hr
S/G NR level = 64%

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Which ONE of the following is indicated by these conditions?

a. Failure low of the steam flow pressure compensation signal.

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b. S/G fault upstream of the steam flow transmitters.

c. Failure low of the first stage pressure signal.

d. S/G tube rupture.

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While performing ES-1.3, "Transfer to Cold Leg Recirculation", following a large break LOCA, the following plant conditions were observed requiring transition to ECA-1.1, "Loss of Emergency Coolant Recirculation".

- ECCS lined up for injection phase
- REFUELING WATER STORAGE TANK LO-LO LEVEL alarm
- REFUELING WATER STORAGE TANK TECH SPEC MIN LEVEL alarm
- CONTAINMENT SUMP HIGH LEVEL alarm
- Containment water level (LI-3-6309A & B) = 420 inches

Which ONE of the following states the correct action in ECA-1.1 to be taken regarding the operation of RHR pumps, HHSI pumps, and containment spray pumps?

- a. 420 inches of water in containment is sufficient to provide NPSH for one train of RHR, so shift one train of RHR to cold leg recirc and stop the spray pumps.
- b. 420 inches of water in containment is not sufficient to provide NPSH for any of the running pumps, so stop all RHR, HHSI, and spray pumps to prevent equipment damage.
- c. Secure HHSI pumps to reduce RWST use rate and monitor containment level until it rises to 427 inches, then transfer to cold leg recirculation.

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d. Continue running pumps and monitor for cavitation while initiating RWST makeup. Immediately stop any pump with indications of cavitation.

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QUESTION: 098 (1.00)

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Which ONE of the following states the reason for restricting average RCS temperature to 500 deg. F if the LCO for RCS SPECIFIC ACTIVITY cannot be met ?

- a. Minimize containment pressure in the event of a LOCA.
- b. Minimize the probability of a LOCA by reducing RCS stored energy.
- c. Minimize the increase in RCS activity by reducing fuel temperature.

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d. Minimize the probability of a release via a SGTR and an open S/G PORV.

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Page105

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ANSWER: 001 (1.00)
 c.
REFERENCE:
 TURKEY PT: Technical Specifications, paragraph 3.1.3.6
 KA 014000G011 [3.0/3.9]
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    014000G011
                  ..(KA's)
ANSWER: 002 (1.00)
b..
REFERENCE:
TURKEY PT: SD063, page 35
 KA 006000K422 [3.6/3.9]
    006000K422 ... (KA's)
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ANSWER:
        003 (1.00)
a.
                4
REFERENCE:
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TURKEY PT: SD 009, page 39
KA 010000K103 [3.6/3.7]
    010000K103
                 ..(KA's)
ANSWER:
        004 (1.00)
                                           ۰.
c.
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5. 5. 5. 5
REFERENCE:
TURKEY PT: SD 009, page 24, and Facility Question 69021090806
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KA 010000K603 [3.2/3.6] 010000K603 ..(KA's)

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ANSWER: 005 (1.00)
 c.
REFERENCE:
 TURKEY PT: SD 029, page 12
 KA 027000A201 [3.0/3.3]
   027000A201 .. (KA's)
     .
ANSWER: 006 (1.00)
 d.
REFERENCE:
 TURKEY PT: 3-BD-EOP-FR-Z.1, page 20
KA 028000G004 [3.3/3.5]
   028000G004 ... (KA's)
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ANSWER: 007 (1.00)
 a.
REFERENCE:
                ۰,
 TURKEY PT: ONOP 208.6, page 6
KA 062000A021 [3.4/3.9]
   062000A201 ..(KA's)
ANSWER: 008 (1.00)
d.
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TURKEY PT: SD 140, page 55

KA 062000G007 [3.0/3.2] 062000G007 ..(KA's)

REFERENCE:

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Page107

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ANSWER: 009 (1.00)
 a.
REFERENCE:
 TURKEY PT: Review Package No. 7716136, page 4
                                                      ÷
 KA 064000A401 [4.0/4.3]
    064000A401 ..(KA's)
ANSWER: 010 (1.00)
 c.
REFERENCE:
 TURKEY PT: ONOP 11108.1, paragraph 5.2
 KA 073000G008 [3.3/3.3]
    073000G008 ... (KA's)
                          ۰,
ANSWER: 011 (1.00)
 c.
REFERENCE:
                               ٠,
                 •_
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 TURKEY PT: SD 063, pages 33 and 54
KA 103000K406 [3.1/3.7]
   103000K406
                  ..(KA's)
ANSWER: 012 (1.00)
b.
                                   2.
REFERENCE:
                       ٠.
                              þ.
TURKEY PT: 3-ONOP-028, paragraph 4.4
KA 000001G010 [3.9/4.0]
   000001G010
               ..(KA's)
                                      y .
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ANSWER: 013 (1.00)
a.
REFERENCE:
TURKEY PT: Technical Specifications, Figure 3.1-2
KA 000003K107 [3.1/3.9]
   000003K107 .. (KA's)
ANSWER: 014 (1.00)
d.
REFERENCE:
TURKEY PT: 3-EOP-ES-1.2, Attachment 1
KA 000011A209 [4.2/4.3]
   000011A209 (...(KA's)
  L.
                           $
ANSWER: 015 (1.00)
d.
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REFERENCE:
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                  ٠.
TURKEY PT: 3-ONOP-1108.1
                           "•
                              ٠.
KA 000015K303 [3.7/4.0]
               ..(KĀ's)
   000015K303
ANSWER: 016 (1.00)
b.
                                      ÷.,
REFERENCE:
                       ٠,
                              Ņ,
TURKEY PT: ONOP-11108.1, paragraph 5.3.3
KA 000059A205 [3.6/3.9]
                 ..(KA's)
    000059A205
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ANSWER: 017 (1.00)
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b.

REFERENCE:

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TURKEY PT: O-ONOP-016.8, page 8
KA 000067A109 [3.0/3.3]
000067A109 ..(KA's)
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ANSWER: 018 (1.00)

c.

REFERENCE:

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TURKEY PT: 3-BD-EOP-E-0, page 9
KA 000007K103 [3.7/4.0]
000007K103 ...(KA's)
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ANSWER: 019 (1.00)

a.

REFERENCE:

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TURKEY PT: SD 009, page 32
KA 000009A117 [3.4/3.4]
000009A117 ..(KA's)
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ANSWER: 020 (1.00)

b.

REFERENCE:

TUF	REY	PT:	SD-C)21,	page	15
KA	0000	25K3	02	[3.3	3/3.7]
	0000	25K3	02	•	. (KA	's)

۰. ANSWER: 021 (1.00) b. **REFERENCE:** TURKEY PT: SD-004, page 43-44 KA 000033A211 [3.1/3.4] 000033A211 .. (KA's) ANSWER: 022 (1.00) d. **REFERENCE:** TURKEY PT: SD-063, page 35 KA 000038A135 [3.5/3.6] 000038A135 .. (KA's) ٠. ANSWER: 023 (1.00) d. **REFERENCE:** ٢, ٠, TURKEY PT: SD-68, figure 6; 0-ONOP-066, page 5 KA 000061K302 [3.4/3.6] 000061K302 ..(KA's) ANSWER: 024 (1.00) d. ٠, **REFERENCE:** •. ž TURKEY PT: pages 3-BD-EOP-E-3, 34 and 37 KA 000027A201 [3.4/3.8] 000027A201 .. (KA's)

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ANSWER: 025 (1.00)
 b.
REFERENCE:
 TURKEY PT: 3-BD-EOP-E-3, page 37
 KA 000038A132 [4.6/4.7]
    000038A132 .. (KA's)
ANSWER: 026 (1.00)
 b.
REFERENCE:
 TURKEY PT: 3-ONOP-033.2, page 5
 KA 000036K303 [3.7/4.1]
    000036K303 .. (KA's)
                          2
ANSWER: 027 (1.00)
 d.
                5
REFERENCE:
                 •
 TURKEY PT: SD-165, page 11 and 12
 KA 000056A107 [3.2/3.2]
    000056A107 .. (KA's)
ANSWER: 028 (1.00)
· b.
REFERENCE:
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TURKEY PT: 0-ADM-201, page 22 KA 194001A102 [4.1/3.9] 194001A102 .. (KA's)

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ANSWER: 029 (1.00)

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a.

REFERENCE:

```
TURKEY PT: 0-ADM-200, page 39
KA 194001A105 [3.6/3.8]
194001A105 ...(KA's)
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ANSWER: 030 (1.00)

c.

REFERENCE:

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TURKEY PT: O-ADM-201, page 17
KA 194001A112 [3.1/4.1]
194001K101 ...(KA's)
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ANSWER: 031 (1.00)

b.

REFERENCE:

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TURKEY PT: 0-ADM-031, page 8
KA 194001K101 [3.6/3.7]
194001K101 ..(KA's)
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ANSWER: 032 (1.00)

d.

REFERENCE:

TURKEY PT: ADM-203 LP, page 7 KA 194001K107 [3.6/3.7] 194001K107 ...(KA's) •

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ANSWER: 033 (1.00)

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c.

REFERENCE:

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TURKEY PT: ADM-204 LP, page 5
KA 194001A106 [3.4/3.4]
194001A106 ..(KA's)
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ANSWER: 034 (1.00)

b.

REFERENCE:

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TURKEY PT: EPIP 20109, page 4
KA 194001A116 [3.1/4.4]
194001A116 ...(KA's)
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ANSWER: 035 (1.00)

c.

REFERENCE:

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TURKEY PT: 0-ADM-212, page 26
KA 194001K102 [3.7/4.1]
194001K102 ..(KA's)
```

ANSWER: 036 (1.00)

d.

REFERENCE:

TURKEY PT: SD-29, page 15 KA 022000A104 [3.2/3.3] 022000A104 ..(KA's) ٩,

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ANSWER: 037 (1.00)

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b.

REFERENCE:

```
TURKEY PT: SD-25, page 9
KA 026000A401 [4.5/4.3]
026000A401 ..(KA's)
```

ANSWER: 038 (1.00)

b.

REFERENCE:

```
TURKEY PT: 3-BD-EOP-ES-1.3, page 11
KA 026000G010 [3.3/3.5]
026000G010 ...(KA's)
```

ANSWER: 039 (1.00)

d.

REFERENCE:

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TURKEY PT: SD-11, page 23
KA 059000K103 [3.1/3.3]
059000K103 ..(KA's)
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ANSWER: 040 (1.00)

c.

REFERENCE:

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TURKEY PT: 0-ONOP-066, page 4 KA 072000G002 [3.1/3.6] 072000G002 ..(KA's) ł.

ANSWER: 041 (1.00)

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b.

REFERENCE:

```
TURKEY PT: Facility Question 69021050307
KA 001000K407 [3.7/3.8]
001000K407 ..(KA's)
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ANSWER: 042 (1.00)

a.

REFERENCE:

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TURKEY PT: OSP 75.1, AFW Train 1 Operability Verification, and facility
question 69021231001
KA 061000K101 [4.1/4.2]
061000K101 ..(KA's)
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ANSWER: 043 (1.00)
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a.

REFERENCE:

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TURKEY PT: SD-127
KA 045000K411 [3.6/3.9]
045000K411 ..(KA's)
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ANSWER: 044 (1.00)

d.

REFERENCE:

TURKEY PT: 30NOP-003.9, page 4 KA 000057A219 [4.0/4.3] 000057A219 ...(KA's) ١.

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ANSWER: 045 (1.00)
 b.
REFERENCE:
 TURKEY PT: 3-BD-EOP-ECA-0.0, page 30
 KA 000055K101 [3.3/3.7]
    000055K101 ..(KA's)
ANSWER: 046 (1.00)
 a.
REFERENCE:
 TURKEY PT: 3-ONOP-030
KA 000026G010 [3.6/3.5]
    000026G010 ... (KA's)
                          •
ANSWER: 047 (1.00)
 a.
               ۲.
REFERENCE:
                               ς.
                 ٠.
 TURKEY PT: SD-144, figure 1 and Facility Question 69021390512
 KA 000058A101 [3.4/3.5]
                           , `
   000058A101
                ..(KA's)
ANSWER: 048 (1.00)
c.
                            4
                                REFERENCE:
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                             5
TURKEY PT: SD-105, page 4, Rev. 5
KA 041020A302 [3.3/3.4]
   041020A302
                 ..(KA's)
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ANSWER: 049 (1.00)

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d.

REFERENCE:

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TURKEY PT: SD-105
KA 041020A202 [3.6/3.9]
041020A202 ..(KA's)
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ANSWER: 050 (1.00)

c.

REFERENCE:

```
TURKEY PT: SD-007, Rev. 6, page 44
KA 010000K403 [3.8/4.1]
010000K403 ...(KA's)
```

ANSWER: 051 (1.00)

a.

REFERENCE:

```
TURKEY PT: SD-011, Rev. 3, pages 46, 47; Dwg. 5160-T-D-18B
KA 035010A204 [3.6/3.8]
035010A204 ..(KA's)
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ANSWER: 052 (1.00)

c.

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REFERENCE:

TURKEY PT: Facility Question no. 69021130411 KA 004020A213 [3.4/3.9] 004020A213 ..(KA's) ì

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ANSWER: 053
              (1.00)
 b. '
REFERENCE:
 TURKEY PT: Technical Specifications, 3.6.2
 KA 026000G005 [3.3/3.9]
    026000G005
                   ..(KA's)
ANSWER: 054 (1.00)
 c.
REFERENCE:
 TURKEY PT: AP-0103.36, dated 2/6/90, Pages 3 & 6
 KA 194001K102 [3.7/4.1]
    194001K102
               . (KA's)
                           ٩
ANSWER:
         055 (1.00)
 c.
REFERENCE:
                                ٠,
 TURKEY PT: Facility Question no. 69020080601
KA 194001K102 [3.7/4.1]
                   .. (KA's)
    194001K102
ANSWER:
         056 (1.00)
                                           •
b.
                                     ...
REFERENCE:
                        .
                               2
TURKEY PT: 0-ADM-031, dated 04/16/91, page 8, section 5.1.3
```

KA 194001K101 [3.6/3.7] 194001K101 .. (KA's)

: ANSWER: 057 (1.00)c. **REFERENCE:** TURKEY PT: Basis Document: 3-BD-EOP-E-0, dated 1/16/90, page 41, BASIS KA 000009K323 [4.2/4.3] 000009K323 .. (KA's) ANSWER: 058 (1.00)c. **REFERENCE:** TURKEY PT: ONOP 1108.1, dated 4/23/91, page 2, section 3.2.5 KA 000015A208 [3.4/3.5] 000015A208 .. (KA's) ٦. ANSWER: 059 (1.00) d. , , **REFERENCE:** \$ ٩. TURKEY PT: 0-ONOP-105, dated 2/22/90, page 7, NOTES KA 000068G012 [3.8/4.0] . 000068G012 ..(KA's) ANSWER: 060 (1.00) ٠. b. . . **REFERENCE:** • TURKEY PT: 0-ONOP-105, dated 2/22/90, pages 5 & 7, Section 1.2.3 & CAUTION

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KA 000068K318 [4.2/4.5] 000068K318 ..(KA's)

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ANSWER: 061 (1.00)
 a.
REFERENCE:
 TURKEY PT: SD-005, Rev. 6, page 42
 KA 001010A205 [3.2/3.8]
   001010A205
                 ..(KA's)
  1
ANSWER: 062 (1.00)
 a.
   . .
REFERENCE:
TURKEY PT: SD-008, Rev. 5, page 22
KA 003000G001 [3.7/3.8]
   003000G001 ... (KA's)
                          ٩.
ANSWER: 063 (1.00)
b.
REFERENCE:
                               ٠.
                 ٠,
TURKEY PT: SD-040, Rev. 5, page 15, NOTE
KA 000026K302 [3.6/3.9]
   000026K302 .. (KA's)
ANSWER: 064 (1.00)
b.
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REFERENCE:
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TURKEY PT: 3-BD-EOP-FR-C.1, page 32
KA 000074K307 [4.0/4.4]
   000074K307
              ..(KA's)
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ANSWER:
          065 (1.00)
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REFERENCE:
 TURKEY PT: SD-170, page 18 and 21
 KA 013000K401 [3.9/4.3]
                                                          013000K401
                    .. (KA's)
ANSWER:
          066
               (1.00)
 d.
REFERENCE:
 TURKEY PT: SD-007, Rev. 5, page 16 & Figure 12, Rev. 3
 KA 014000A204 [3.4/3.9]
    014000A204
                .. (KA's)
ANSWER:
          067
                (1.00)
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REFERENCE:
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 TURKEY PT: SD-137, Rev. 5, page 39
 KA 064000A205 [3.1/3.2]
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    064000A205
                   .. (KA's)
ANSWER:
               (1.00)
          068
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REFERENCE:
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TURKEY PT: ONOP 047.1, page 5, Rev 11/1/89,
KA 000022G010 [3.4/3.5]
                  ..(KA's)
    000022G010
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ANSWER: 069 (1.00)
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REFERENCE:
 TURKEY PT: ONOP-059.5, page 9, Rev. 2/25/88
 KA 000032K302 [3.7/4.1]
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    000032K302
                     ..(KA's)
ANSWER: 070 (1.00)
 b.
REFERENCE:
 TURKEY PT: ONOP-071, page 4, Rev. 7/6/89
 Limit is 1 gpm leakage through ALL S/G's
 (145 \text{ gal/day})/(24 \text{ hrs/day} * 60 \text{ min/hr}) = .1 \text{ gal/min}
 .1 gpm / 1 gpm = 10% of allowable leakage from ALL steam generators.
 KA 000037A206 [4.3/4.5]
    000037A206 ..(KA's)
                                   ٠.
           071 (1.00)
ANSWER:
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 b.
REFERENCE:
 TURKEY PT: SD-117, page 5, Rev. 13
 KA 000054K301 [4.1/4.4]
    000054K301
                    ..(KA's)
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ANSWER:
           072 (1.00)
 b.
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TURKEY PT: Technical Specifications, paragraph 1.7
KA 000069A201 [3.7/4.3]
000069A201 ..(KA's)
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ANSWER: 073 (1.00)

c.

REFERENCE:

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TURKEY PT: ONOP-46.1, paragraph 5.3.1
KA 000024G010 [4.0/4.0]
000024G010 ..(KA's)
```

ANSWER: 074 (1.00)

c.

REFERENCE:

TURKEY PT: ONOP-003.4, page 6, Rev 6/14/91; EPIP 20101, page 22, Rev. 4/11/91

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EPIP 20101, EAL tables may be provided as an open reference if necessary, although item is based the NOTE in ONOP-003.4, section 5.3.

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KA 063000G002 [2.6/3.4] 063000G002 ..(KA's)

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ANSWER: 075 (1.00)

d.

REFERENCE:

TURKEY PT: SD-29, page 7 KA 022000K404 [2.8/3.1] 022000K404 ..(KA's)

ANSWER: 076 (1.00)

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TURKEY PT: SD-144, page 13
KA 063000K103 [2.9/3.5]
063000K103 ..(KA's)
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ANSWER: 077 (1.00)

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REFERENCE:

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TURKEY PT: SD-144, figure 1
KA 063000K201 [2.9/3.1]
063000K201 ..(KA's)
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ANSWER: 078 (1.00)

c.

REFERENCE:

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TURKEY PT: ONOP-041.6, page 4, Rev. 7/27/89, Section 4.0;
ONOP-041.6, page 6, Rev. 7/27/89, Enclosure 1;
KA 000028K305 [3.7/4.1]
000028K305 ..(KA's)
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ANSWER: 079 (1.00)
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REFERENCE:

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TURKEY PT: 3-ONOP-050, dated 10/19/90, page 6, step 1.b.
KA 002000A203 [4.1/4.3]
002000A203 ..(KA's)
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ANSWER: 080 (1.00)
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TURKEY PT: SD-011, page 35
KA 000038K305 [4.0/4.3]
000038K305 ..(KA's)
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ANSWER: 081 (1.00)

b.

REFERENCE:

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TURKEY PT: 3-EOP-E-0, FOLDOUT FOR PROCEDURE E-0
KA 000011A103 [4.0/4.0]
000011A103 ..(KA's)
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ANSWER: 082 (1.00)

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REFERENCE:
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TURKEY PT: 3-EOP-F-0, dated 5/28/91, page 14, Attachment 1, Section 1
KA 000074K311 [4.0/4.4]
KA 000005K302 [3.6/4.2]
000074K311 ..(KA's)
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ANSWER: 083 (1.00)

c.

REFERENCE:

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TURKEY PT: SD 104, page 20
KA 000040A103 [4.3/4.3]
000040A103 ..(KA's)
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ANSWER: 084 (1.00)
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SENIOR REACTOR OPERATOR

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REFERENCE:

TURKEY PT: 3-EOP-FR-S.1, dated 5/28/91, page 11, CAUTIONS 3-BD-EOP-FR-S.1, dated 1/16/90, page 18 KA 000029K312 [4.4/4.7] 000029K312 ..(KA's)

ANSWER: 085 (1.00)

c.

REFERENCE:

TURKEY PT: SD-165, Figure 1a, Rev. 2, Technical Specifications 3.7.2 & 3.7.3 KA 076000G005 [2.8/3.2] 076000G005 ..(KA's)

ANSWER: 086 (1.00)

c.

REFERENCE:

TURKEY PT: OP-5163.2, dated 7/26/90, page 2, Section 4.3 Technical Specification 4.11.1.1.1 KA 073000G005 [3.1/3.6] 073000G005 ..(KA's)

ANSWER: 087 (1.00)

d.

REFERENCE:

TURKEY PT: Dwg. 5610-T-D-17, Sheet 1 of 1 KA 035010A203 [3.4/3.6] 035010A203 ..(KA's)

ANSWER: 088 (1.00)

d.

SENIOR REACTOR OPERATOR

REFERENCE:

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TURKEY PT: Technical Specifications, 3/4.7.1.5
KA 035000G011 [2.9/3.7]
035000G011 ..(KA's)
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ANSWER: 089 (1.00)

d.

REFERENCE:

TURKEY PT: 0-ADM-214, page 7-9 KA 194001A109 [2.7/3.9] 194001A109 ..(KA's)

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ANSWER: 090 (1.00)

b.

REFERENCE:

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TURKEY PT: Technical Specifications 4.02 and 4.05b
KA 194001A106 [3.4/3.4]
194001A106 ...(KA's)
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ANSWER: 091 (1.00)

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a.
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REFERENCE:

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TURKEY PT: Lesson Package 6900353, Rev. 2, pages 6 & 7
KA 194001A115 [3.1/3.4]
194001A115 ..(KA's)
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ANSWER: 092 (1.00)

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TURKEY PT: Technical Specifications Table 6.2-1
KA 194001A111 [2.8/4.1]
194001A111 ..(KA's)
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ANSWER: 093 (1.00)

a.

REFERENCE:

TURKEY PT: AP-0103.12, dated 1/29/91, page 8, Appendix A KA 194001A116 [3.1/4.4] 194001A116 ..(KA's)

ANSWER: 094 (1.00)

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c.

REFERENCE:

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TURKEY PT: 0-ADM-600, dated 12/5/89, pages 36 & 37
KA 194001K103 [2.8/3.4]
194001K103 ..(KA's)
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ANSWER: 095 (1.00)

a.

REFERENCE:

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TURKEY PT: SD 009, pages 25-28
KA 000008A203 [3.9/3.9]
000008A203 ..(KA's)
ANSWER: 096 (1.00)
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TURKEY PT: SD-011 KA 000038A102 [4.2/4.1] 000038A102 ..(KA's)

ANSWER: 097 (1.00)

b.

REFERENCE:

TURKEY PT: EOP-ECA-1.1 KA 000011A113 [4.1/4.2] 000011A113 ..(KA's)

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ANSWER: 098 (1.00)

d.

REFERENCE:

TURKEY PT: Technical Specifications, Bases, page B 3/4 4-7 KA 000076G004 [2.1/3.7] 000076G004 . ..(KA's)

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U. S. NUCLEAR REGULATORY COMMISSION SITE SPECIFIC EXAMINATION REACTOR OPERATOR LICENSE REGION 2

CANDIDATE'S NAME:

FACILITY:

Turkey Point 3 & 4

PWR-WEC3

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REACTOR TYPE:

DATE ADMINISTERED: 91/09/30

INSTRUCTIONS TO CANDIDATE:

1

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	بو	
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100.00		8	TOTALS
<u> </u>	FINAL GRADE		

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

Candidate's Signature

:

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.
- 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.
- 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.
- 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.
- 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.

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- 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.

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Multiple Choice (Circle or X your choice)

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

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Multiple Choice (Circle or X your choice)

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

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049	a	b	С	đ				072	a	b	С	d	
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Multiple Choice (Circle or X your choice)

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

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093	а	b	С	d		
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Nuclear Regulatory Commission Operator Licensing Examination

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NRC Official Use Only

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QUESTION: 001 (1.00)

Plant conditions:

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- Rx power at 70%
- Shutdown rods fully withdrawn

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- Control Bank C group demand counter at 228 steps Control Bank D group demand counter at 108 steps ;
- Rod M-8 (Control Bank D) individual rod position at 118 steps

Which ONE of the following describes the MINIMUM action(s) "required by Technical Specifications? (Appropriate references are attached).

- a. Be in hot standby within six hours.
- b. Reduce thermal power to 75% or less within one hour.
- c. Reduce thermal power to 65% within two hours.

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d. Reduce thermal power to less than 75% within eight hours.

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QUESTION: 002 (1.00)

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With safety injection actuated from 100% power operation due to low pressurizer pressure, which ONE of the following correctly describes the status of the main steam system?

- a. Main steam stop valves and main steam stop bypass valves both open.
- b. Main steam stop valves open, main steam stop bypass valves shut.
- c. Main steam stop valves shut, main steam stop bypass valves open.

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d. Main steam stop valves and main steam stop bypass valves both shut.

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QUESTION: 003 (1.00)

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Plant conditions:

- Mode 2
- PORVs in automatic

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- PORV PCV-456 opens due to a failure HIGH of pressurizer pressure transmitter PT-445.

Which ONE of the following correctly describes the effect of this failure on RCS pressure?

Note: Assume no operator action other than that specified.

- a. Depressurize until PORV shuts automatically at 2000 psig.
- b. Depressurize until alternate pressurizer pressure control channel selected.
- c. Depressurize continuously to new equilibrium pressure based on heat input from RCPs and pressurizer heaters.
- d. Depressurize until safety injection is actuated, then maintain equilibrium pressure based on injection flow.

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QUESTION: 004 (1.00)

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Which ONE of the following describes the purpose of the Pressurizer Surge line low temperature alarm?

a. Alerts operators to excessive differential temperature between the RCS and the pressurizer.

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- b. Alerts operators to high boron concentration in the pressurizer.
- c. Alerts operators to conditions supporting thermal shock of the pressurizer spray nozzle.

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d. Alerts operators to conditions supporting water hammer on initiation of pressurizer spray.

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QUESTION: 005 (1.00)

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Removal of iodine from containment due to a large break LOCA is essentially complete two hours after actuation of the emergency containment filtering system (ECF).

Which ONE of the following describes why filter fan operation is necessary for up to 72 hours?

a. Remove heat from containment.

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b. Remove radioactive particulate from containment.

c. Remove iodine decay heat from ECF charcoal beds.

d. Remove iodine decay products from containment atmosphere.

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Which ONE of the following correctly states the type of plant event that would PRECEDE purging containment via the post accident containment venting system (PACV)?

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a. Pressurized thermal shock condition.

b. Anticipated transient without scram (ATWS).

c. Loss of secondary heat sink.

d. Inadequate core cooling.

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QUESTION: 007 (1.00)

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With the plant operating at 88% thermal power, the feeder breaker to A SGFP trips on overload. Assume a normal lineup for this power level and that all systems operate as designed.

Which ONE of the following correctly describes the plant response to this casualty?

- a. Runback to 60% power, S/G levels restored in automatic.
- b. Runback to 60% power, idle SGFP and standby condensate pump start, level restored in manual or automatic.
- c. S/G levels decrease until operators reduce power to within the capacity of one SGFP.
- d. S/G levels maintained in either automatic or manual after idle SGFP starts.

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QUESTION: 008 (1.00)

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With reactor power at 100% and Load Center 3H energized from Load Center 3D, the feeder breaker from Load Center 3D to Load Center 3H trips on overcurrent.

Which ONE of the following describes the system response to this casualty?

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- a. Load Center 3H remains deenergized until the fault is cleared and the feeder breaker from Load Center 3D is re-shut manually.
- b. Load Center 3H remains deenergized until the feeder breaker from Load Center 3C is shut manually.
- c. Load Center 3H is automatically reenergized from Load Center 3A unless "C" charging pump failed to trip.

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d. Load Center 3C is automatically reenergized from Load Center 3A.

QUESTION: 009 (1.00)

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3A Emergency Diesel Generator (EDG) conditions:

- 3A EDG "ready to start" light "On"

- 3A "Normal Control" light "Off"

- Annunciator F-8/2, EDG TROUBLE ALARM

- 3A Auto Start Bypass selector switch in "Bypass"

With the conditions given above, which ONE of the following describes the 3A D/G response to a loss of offsite power?

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a. Not start.

b. Start and accelerate to 450 RPM.

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c. Start, accelerate to 900 RPM, but not load.

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d. Start, accelerate to operating speed, and load.

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QUESTION: 010 (1.00)

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While operating in mode 1 with all systems lined up normally, annunciator H-1/6 RADIATION MONITORING SYSTEM CHANNEL FAILURE is received. On inspection, the fail light is found to be illuminated on PRMS channel 18, Waste Disposal System Liquid Effluent Monitor.

Which ONE of the following states the action to be taken?

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- a. Bypass the channel and direct chemistry to take periodic samples.
- b. Direct Nuclear Operator (NO) to shut RCV-014 (gaseous release isolation valve).

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- c. Stop liquid release if in progress and direct chemistry to take required grab samples.
- d. Confirm alarm and refer to OP 5163.2, WDS Controlled Liquid Release to Circulating Water.

QUESTION: 011 (1.00)

Plant conditions:

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- AREA MONITOR HIGH RADIATION alarm due to R-1, R-2, & R-3 > setpoint
- PROCESS MONITOR HIGH RADIATION alarm due to 3R-11 and 3R-12 > setpoint
- CONTAINMENT HIGH PRESS. SAFEGUARDS AND REACTOR TRIP alarm
- Containment pressure = 12 psig

Assuming all systems operate as designed, which ONE of the following is the most COMPLETE description of plant response to the conditions given above?

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- a. Phase B containment isolation.
- b. Feedwater and main steam line isolation.
- c. Safety injection and phase A containment isolation.
- d. Safety injection and actuation of containment spray.

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QUESTION: 012 (1.00)

During manual rod withdrawal in mode 2 with banks C and D in the overlap region, outward rod motion continues when the IN-HOLD-OUT switch is returned to the HOLD position.

Which ONE of the following states the immediate operator actions required by this casualty?

- a. Place the IN-HOLD-OUT switch to IN.
- b. Manually trip the reactor.

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- c. Select a position other than "manual" on the bank selector switch.
- d. Borate or emergency borate, as necessary.

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QUESTION: 013 (1.00)

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Which ONE of the following describes the effect of a rod drop casualty from an initial power of 100%?

a. Rod insertion limit decreases.

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b. QPTR decreases.

c. Shutdown margin increases.

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d. AFD increases.

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QUESTION: 014 (1.00)

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Which ONE of the following is positive indication of natural circulation flow?

- a. Core exit thermocouples > Tc.
- b. Tc < Th for at least one loop.

c. Subcooling margin monitor (ICCS) > 20 deg. F.

d. Tc within 35 deg. F of Tsat for S/G pressure.

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QUESTION: 015 (1.00)

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While operating at 100% power, annunciator F-1/1, RCP SHAFT VIBRATION, alarms. Recorder 369 shows motor vibration > 5 mils on B RCP; other RCP parameters are normal.

Which ONE of the following should be performed by the operator?

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- a. Trip B RCP, verify reactor and turbine trip.
- b. Trip reactor, trip B RCP, and select MANUAL on pressurizer spray valve FCV-3-455A (B loop).
- c. Reduce reactor power per 3-ONOP-100 to P-10, then trip B RCP.
- d. Crosscheck B RCP parameters, reduce power to < P-8, and trip B RCP.

QUESTION: 016 (1.00)

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Following an alarm on R3-19, S/G blowdown liquid activity, which ONE of the following operator actions should be performed first?

- a. Report conditions to PS-N for possible event classification.
- b. Verify blowdown dump to discharge canal (LCV-6265B) shut.
- c. Monitor air ejector radiation monitor and main steam line radiation to confirm a S/G tube leak.
- d. Direct chemistry to sample steam generators.

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QUESTION: 017 (1.00)

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With a trouble signal locked in for alarm point 1, Turbine Building alarm, which ONE of the following describes the response on Fire Detection Panel C39A to another trouble signal from alarm point 2, Turbine Building alarm?

- a. Yellow light for alarm points 1 and 2, yellow trouble light, and audible trouble alarm.
- b. Yellow light for alarm point 2 and yellow trouble light.
- c. Yellow light for alarm point 1, yellow trouble light, and audible trouble alarm.

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d. Yellow light for alarm points 1 and 2 only.

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QUESTION: 018 (1.00)

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Which ONE of the following states the consequence of a failure of the main turbine to trip on reactor trip?

Note: Assume no operator action.

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a. Return to criticality within 1 hour.

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- b. Overspeed of the main turbine.
- c. Actuation of safety injection.
- d. Motorizing the main generator.

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QÚESTION: 019 (1.00)

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Plant conditions:

- PRT pressure = 6 psig
- PRT temperature = 115 deg. F
- PRT water level = 72%

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With the conditions given above, which ONE of the following would be expected in the event of a continuous design discharge from the code safety valves?

a. The PRT rupture discs would blow out.

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- b. PRT pressure would remain below design pressure if operators initiate PRT spray.
- c. High backpressure would prevent normal code safety flow.

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d. An explosive oxygen-hydrogen mixture would accumulate in the PRT.

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Which ONE of the following features, systems, or interlocks is designed to prevent an intersystem LOCA due to overpressurizing the RHR piping?

- a. RHR discharge relief valve (RV-706) set at 600 psig.
- b. Auto close RHR hot leg suctions (MOV-750/751) on increasing pressure.
- c. Overpressure mitigating system in low pressure operation.
- d. Auto close RHR suction from RWST (MOV-862A/B) at 210 psig sensed at the RHR pump discharge.

QUESTION: 021 (1.00)

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With annunciator "INTERM RANGE 1 LOSS OF COMP VOLT" activated, which ONE of the following would be expected?

- a. Rod stop at > 1.3E-4 amp (20%) during startup.
- b. Failure of source range to automatically energize on shutdown.

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- c. Damage to the source range detectors due to being energized automatically on shutdown while actual power is > P-6.
- d. Reactor trip on startup due to reaching 1.5E-4 amps (25%) before reaching 10% on 2 of 4 power range channels.

QUESTION: 022 (1.00)

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Which ONE of the following explains why the main steam line isolation valves may shut while dumping steam to the condenser during a SGTR casualty?

a. High Steam Flow With Low S/G Pressure trip not blocked.

b. High High S/G Water Level trip.

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c. High S/G - Steam Line Differential Pressure trip.

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d. High Steam Flow With Low Tavg trip.

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QUESTION: 023 (1.00)

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Which ONE of the following explains why the ALARM ACK pushbutton on the ARMS Control Panel, R-30, should not be depressed until the affected area has been evacuated and entry restricted?

- a. Clears all local alarm indications, even when alarm conditions are still present.
- b. Resets alarm relays preventing verification of alarm conditions.
- c. Clears the control room annunciator, removing visual indication of an abnormal condition.

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d. Silences the local audible alarm and allows alarm to clear automatically when conditions return to normal.

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QUESTION: 024 (1.00)

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Which ONE of the following describes the expected plant response while depressurizing the RCS during a SGTR casualty?

- a. Subcooling increases; pzr level increases.
- b. Subcooling increases; pzr level decreases.

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- c. Subcooling decreases; pzr level decreases.
- d. Subcooling decreases; pzr level increases.

QUESTION: 025 (1.00)

Plant conditions:

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- "A" S/G has ruptured tube
- "B" S/G MSIV & bypass shut
- "C" S/G used for cooldown (steam dump to condenser)
- After cooldown has been completed by dumping steam from "C" S/G, subcooling is 22 deg. F

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Which ONE of the following describes ruptured S/G pressure?

- a. Pressure in "A" S/G = pressure in "C" S/G.
- b. Pressure in "A" S/G > pressure in "C" S/G.
- c. Pressure in "A" S/G < pressure in "B" S/G.
- d. Pressure in "A" S/G < pressure in "C" S/G.

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If a complete failure of the refueling cavity seal occurs with an irradiated fuel assembly latched on the manipulator crane, which ONE of the following states the approximate time available to fully insert the assembly into the core before radiation exceeds 10R/hour on the refueling bridge?

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- a. 10 minutes.
- b. 20 minutes.
- c. 30 minutes.
- d. 40 minutes.

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QUESTION: 027 (1.00)

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While operating in mode 1 offsite power is lost to Unit 3; emergency diesel generators operate as designed to reenergize the vital buses.

Which ONE of the following describes the operation and final status of the ICW system in response to this casualty?

- a. All ICW pumps trip on loss of power then A and B restart after a time delay; the inlet valves to TPCW close diverting full flow to the CCW heat exchangers.
- b. All ICW pumps trip on loss of power then A and B restart immediately; the inlet valves to TPCW close diverting full flow to the CCW heat exchangers.
- c. All ICW pumps trip on loss of power then A and B restart immediately; flow continues to both the CCW and TPCW heat exchangers.

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d. All ICW pumps trip on loss of power then A and B restart after a time delay; flow continues to both the CCW and TPCW heat exchangers.

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QUESTION: 028 (1.00)

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Which ONE of the following must be performed in sequential order unless exception is specifically allowed by the applicable procedure?

a. Establish prerequisites.

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b. Repeated performance of procedure steps with PS-N approval.

c. Verification of initial conditions.

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d. Performance of valve alignments.

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Which ONE of the following is a proper method to ensure that an operator understands a complex order involving valve numbers given by the RCO?

- a. The RCO provides the order in written form.
- b. The operator makes notes while the order is spoken.
- c. After giving the order, the RCO observes the indications associated with correct performance.
- d. After carrying out the order, the operator reports to the RCO the exact action that was taken.

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QUESTION: 030 (1.00)

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Except for valves designated as "inaccessible" in the applicable procedure, which ONE of the following must be verified when performing safety related system flowpath verifications?

a. All valves listed on the applicable procedure.

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- b. All valves listed on the applicable procedure except those in locked areas.
- c. All valves listed on the applicable procedure except those exempted by the PS-N.
- d. All valves listed on the applicable procedure except those in contaminated areas.

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QUESTION: 031 (1.00)

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Which ONE of the following states the action to be taken by an operator if a valve is found out of position while performing an independent verification?

a. Place the valve in the correct position and report the discrepancy to the PS-N.

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- b. Report the discrepancy to the PS-N so that an investigation can be initiated.
- c. Notify the PS-N and the operator who performed the alignment so the clearance tag can be re-hung on the valve.
- d. Continue with independent verification of remaining components after documenting the discrepancy on the Clearance Order.

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QUESTION: 032 (1.00)

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Which ONE of the following describes the method for checking equipment temperatures by hand?

- a. Use the palm side of the hand because it is more sensitive to heat.
- b. Use the palm side of the hand to reduce the severity of burns because the skin is thicker and tougher.
- c. Use the back of the hand to prevent burns to the palm side of the hand which have a worse effect on tactile sense and dexterity.
- d. Use the back of the hand to reduce the severity of electrical shock.

QUESTION: 033 (1.00)

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Which ONE of the following is the method for recording late entries in logbooks?

- a. Late entries are to be dated and initialed by the operator making the entry.
- b. Late entries are to be made sequentially as the need is discovered with approval from the PS-N.
- c. Late entries for events from a previous shift are to be immediately reviewed and initialed by the PS-N.
- d. Late entries for events from a previous shift are to be confirmed within 24 hours through communication with a licensed operator from the previous shift.

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QUESTION: 034 (1.00)

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Which ONE of the following states the action to be taken by an Operations Department nuclear operator in the event of a local evacuation of the RCA?

- a. Exit by most direct route, do not delay for monitoring or removal of protective clothing.
- b. Exit to designated assembly area by route announced on PA; remove protective clothing before exiting.
- c. Exit by route announced on PA; report to the control room.
- d. Exit to the Personnel Dressout Building; self monitor and remove protective clothing before exiting.

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QUESTION: 035 (1.00)

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Which ONE of the following plant personnel must approve Clearance Orders affecting safety related components?

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a. RCO

b. Clearance Controller

- c. APS-N
- d. NWE
QUESTION: 036 (1.00)

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With the containment emergency cooling units lined up for automatic actuation, which ONE of the following describes the system status indication (s) on VPB?

CW INLET	CCW OUTLET	CCW BYPASS	CCW FLOW
a. red light "on"	green light "on"	green light "on"	0 gpm
b. green light "on"	green light "on"	green light "on"	0 gpm
c. red light "on"	red light "on"	green light "on"	2000 gpm
d. red light "on"	green light "on"	red light "on"	200 gpm

QUESTION: 037 (1.00)

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Which ONE of the following will cause 3A CS pump to start?

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- a. With the switch on VPB in "stop", a low pressurizer pressure SI signal is received.
- b. With the switch on VPB in "stop", the local control pushbutton at the pump is depressed.
- c. With the switch on VPB in "auto", emergency containment filter unit charcoal filter temperature > 350 degrees F is detected.
- d. With the switch on VPB in "auto", high containment pressure (4 psig) on 2 of 3 sensors occurs.

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QUESTION: 038 (1.00)

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Which ONE of the following explains why one containment spray (CS) pump is stopped when RWST level reaches 155,000 gallons?

- a. Conserve water for injection to provide core cooling.
- b. Prevent cavitation of the CS pumps.
- c. Allow operators to confirm proper operation of CS before stopping one of two redundant trains.

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d. Ensure adequate NPSH for SI pumps.

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QUESTION: 039 (1.00)

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Which ONE of the following describes the reason for selecting 15% as the setpoint for the lo-lo S/G narrow range level reactor trip?

- a. Prevent uncovering tubes due to shrink.
- b. Minimize severity of steam rupture accident.
- c. Prevent loss of S/G narrow range level indication.

d. Ensure no loss of heat sink during startup of AFW.

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QUESTION: 040 (1.00)

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Following an area radiation monitor alarm, which ONE of the following actions should be performed first?

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a. Evaluate process monitors and other ARMs for the affected area.

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b. Confirm validity of alarm.

c. Announce alarm on PA system.

d. Evacuate affected area.

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QUESTION: 041 (1.00)

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Following retrieval of a dropped rod per ONOP-028.3, "Dropped Rod", the operator fails to reset the Dropped Rod, Rod Stop bistables on ALL affected NIS power ranges. With the runback selector switch in the "NIS" position, which ONE of the following describes the effect on plant operation?

- a. No effect because only auto rod withdrawal is inhibited, a feature that has been disabled.
- b. Reactor power cannot be raised above 70% because a runback signal to the load limit is still present.
- c. Manual rod withdrawal is blocked if any one of the bistables remains tripped.
- d. No effect because the runback selector switch blocks the NIS rod stop and the turbine runback selector switch blocks the turbine runback signal.

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Following a reactor trip and initiation of safety injection due to an unisolable fault on S/G B, conditions associated with AFW are:

- AFW pump C aligned to train 1
- AFW pump A cleared for maintenance
- AFW pump C steam supply MOV failed to open
- AFW pump B discharge pressure = 0 psig
- AFW pump B RPM = 5900 RPM
- AFW flow to S/G A, B, & C = 0 gpm

Which ONE of the following is indicated?

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- a. Steam binding of B AFW pump due to backleakage of steam through the discharge check valves.
- b. Air binding of B AFW pump due to inleakage of air through the mechanical seals.
- c. Inadequate NPSH for B AFW pump due to the suction valve failing shut on loss of air.

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d. Runout conditions on B AFW pump due to low pressure in B S/G.

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QUESTION: 043 (1.00)

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Which ONE of the following is a direct input to the reactor protection system (RPS) that will result in a reactor trip due to turbine trip?

a. 2/2 turbine stop valves closed.

b. 3/3 turbine control valves closed.

c. 2/3 turbine auto stop oil pressure switches < 55 psig.

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d. Main generator lockout.

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QUESTION: 044 (1.00)

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Which ONE of the following is most likely to occur due to loss of 120V Vital Instrument Panel 3PO9?

- a. Actuation of pressurizer safeties if spray, heaters, and PORVs are not controlled manually.
- b. Reactor trip on low S/G level if C S/G level not controlled in manual.
- c. Reactor trip on low pressurizer pressure if spray valves are not shut manually.
- d. Reactor trip on high S/G level if runback is not terminated.

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QUESTION: 045 (1.00)

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Which ONE of the following explains why DC loads are reduced per ECA-0.0 during a station blackout?

- a. Prolongs continuity of power to DC loads by reducing vital battery temperature.
- b. Increases the number of ampere-hours available from the vital batteries by reducing the discharge rate.
- c. Ensures batteries meet design criteria of supplying DC loads for at least two hours.
- d. Ensures batteries meet design criteria of supplying DC loads for at least four hours.

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QUESTION: 046 (1.00)

Plant conditions:

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- 90% reactor power
- A CCW pump running
- B CCW in auto
- C CCW OOS for maintenance

With the conditions given above, A CCW pump trips on overcurrent and B CCW pump starts automatically. After B CCW pump starts, B CCW pump amps indicate that the pump is cavitating and both A and B header flows are intermittently bouncing off of the low peg of the flow indicator.

Which ONE of the following should be performed first?

- a. Trip the reactor and stop RCPs.
- b. Verify surge tank level greater than 25%; trip reactor and RCPs with motor or pump bearing high temperature alarms.
- c. Crosstie CCW headers if operating with headers split.

d. Lineup to supply CCW from the other unit.

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Which ONE of the following correctly describes the way in which alternate power from the spare battery (D52) is supplied to Vital 125 VDC bus 3B?

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- a. The spare battery supplies the swing bus section of D-50 with the swing bus breaker to bus 3B shut.
- b. The spare battery supplies the test bus section of D-50 with the test bus breaker to bus 3B shut.
- c. The spare battery and spare battery charger supply the swing bus section of D-50 with the swing bus breaker to 3B shut.
- d. The spare battery and spare battery charger supply the test bus section of D-50 with the test bus breaker to 3B shut.

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QUESTION: 048 (1.00)

Plant conditions:

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- The plant is operating at 90% power

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- A disturbance on the grid causes unit/turbine load to suddenly drop to 52%.

Which ONE of the following will occur?

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- a. The steam dumps will go full open, the reactor and turbine will trip.
- b. The steam dumps will go full open and the turbine will trip.
- c. The steam dumps will open to prevent a reactor or turbine trip.
- d. The steam dumps will open to prevent a reactor trip but the turbine will trip.

QUESTION: 049 (1.00)

Plant conditions:

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- The reactor is critical at 10 E-8 amps at the end of core life.
- ONE S/G atmospheric steam dump fails open.
- No rod motion.
- No reactor trip.

NOTE: Assume no operator action

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Which ONE of the following describes Tavg and reactor power five minutes into this transient?

- a. Tavg will be greater than initial Tavg, reactor power will be above the point of adding heat.
- b. Tay will be greater than initial Tayg, reactor power will be at the point of adding heat.
- c. Tavg will be less than initial Tavg, reactor power will be at the point of adding heat.

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d. Tavg will be less than initial Tavg, reactor power will be above the point of adding heat.

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QUESTION: 050 (1.00)

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Which ONE of the following conditions will initiate alarm annunciator A-3/2, OMS LOW PRESSURE OPERATION, and require the realignment of the Overpressure Mitigation System (OMS)?

- a. The OMS control selector switch in the LOW PRESSURE position OR the OMS mode switch in AUTO.
- b. The OMS control selector switch in the NORMAL position AND the OMS mode switch in MANUAL.
- c. RCS pressure less than 390 psig AND the OMS mode selector in the NORMAL position.
- d. RCS pressure less than 390 psig OR the OMS control switch in the LOW PRESSURE position.

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QUESTION: 051 (1.00)

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Plant conditions:

- The reactor plant is operating at 50% power.
- All control systems are in automatic.
- PT-475, "A" steam generator pressure transmitter fails HIGH.
- NOTE: PT-475 provides input to Steam Generator Water Level Control (SGWLCS) and Safeguards Actuation - Steam Line Isolation logic.

Which ONE of the following describes how the plant responds to this failure and the reason for this response? Assume no operator action.

- a. Because the steam flow signal is greater than actual steam flow, steam generator level will increase; steam line isolation is NOT affected.
- b. Because the steam flow signal is less than actual steam flow, steam generator level will decrease; steam line isolation is NOT affected.
- c. Because the steam signal is greater than actual steam flow, steam generator level will decrease; a 1/3 steam line isolation signal is generated because indicated SG pressure is greater than header pressure.
- d. Because the steam flow signal is greater than actual steam flow, steam generator level will increase; a 1/3 steam line isolation signal is generated because indicated SG pressure is greater than header pressure.

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QUESTION: 052 (1.00)

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Which ONE of the following could cause an inadvertent dilution accident?

- a. Inadvertant initiation of HHSI during mode 1 operation.
- b. A regenerative heat exchanger tube leak.
- c. Valving in a demineralizer that was not saturated.
- d. Shift of charging pump suction due to Lo-Lo VCT level.

QUESTION: 053 (1.00)

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Plant conditions:

- The plant is shutdown.

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- Tavg is 275 deg. F.

Which ONE of the following conditions requires entry into a Technical Specifications action statement.

a. One Auxiliary Feed Pump is INOPERABLE.

b. One Containment spray pump is INOPERABLE.

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- c. The Post Accident Containment Vent System is INOPERABLE.
- d. Two of the main steam line code safety valves are INOPERABLE.

QUESTION: 054 (1.00)

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Which ONE of the following statements regarding the use of Temporary Information Tags per AP-103.36, "Control of Operator Aids and Temporary Information Tags" is applicable to Turkey Point Nuclear Station?

a. May be used in place of caution tags.

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b. May be used in place of in-plant equipment clearance tags.

c. May be removed by approval of the Plant Supervisor-Nuclear.

d. May be removed by approval of the Reactor Control Operator.

QUESTION: 055 (1.00)

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For which ONE of the following would a "Release for test" be allowed per O-ADM-212, "In-Plant Clearance Orders"?

- a. Tests which demonstrate that power supplies for a piece of equipment are free of grounds.
- b. Tests which demonstrate preconditions are satisfied for removing a piece of equipment from service.
- c. Calibrations which are required to prove a piece of equipment will perform its intended function.
- d. Testing that, if satisfactory, will allow final clearance release without re-establishing the clearance boundary.

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QUESTION: 056 (1.00)

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Which ONE of the following describes Turkey Point policy on Independent Verification per 0-ADM-031, "Independent Verification"?

- a. Independent verification is used with safety related systems and NOT with quality systems.
- b. Independent verification is meant to be an observation of system line-up and shall NOT require realignment.
- c. Using flow indication is NOT an adequate verification of a valve's position.
- d. Breaker position is to be verified by local indicators and shall NOT be verified by remote indicators.

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QUESTION: 057 (1.00)

Which ONE of the following is the reason Reactor Coolant Pumps (RCPs) are tripped per EOPs during a small break LOCA?

a. Minimizes two phase flow in the Reactor Coolant System (RCS).

b. Prevents exceeding 10 CFR 100 limits.

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c. Conserves reactor coolant inventory.

d. Reduces plant electrical loads.

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Which ONE of the following conditions require a Reactor Coolant Pump (RCP) to be stopped immediately per ONOP-1108.1, "Reactor Coolant Pump Off-Normal Conditions?

- a. Seal injection temperature increasing above 130 deg. F with RCS at 385 deg. F.
- b. Motor stator winding temperature increasing above 235 deg. F.
- c. Pump bearing temperature increasing above 230 deg. F.
- d. Motor lower bearing increasing above 190 deg. F.

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QUESTION: 059 (1.00)

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The plant was operating in MODE 1 when a fire forced the evacuation of the control room per ONOP-105, "Control Room Evacuation."

Which ONE of the following describes the use of the EOPs?

- a. Use EOP's only for those steps to provide shutdown cooling.
- b. The EOP's shall be used for control room evacuation in modes 1, 2, or 3 only.
- c. Following the EOP's as written is mandatory.

d. EOP's should be used for information only.

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QUESTION: 060 (1.00)

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Which ONE of the following is assumed upon entry into ONOP-105, "Control Room Evacuation"?

- a. Loss of off-site power will not be caused by a control room fire.
- b. Undamaged non-protected components may be loaded onto EDG-B.
- c. One alternate shutdown protected component will fail.
- d. Both units are NOT in MODE 6.

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QUESTION: 061 (1.00)

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Which ONE of the following component failures will prevent ALL control rod motion?

- a. A logic cabinet slave cycler failure due to the slave cycler continuing to count after the cycle is complete with no further GO pulses received.
- b. Failure of the following logic cabinet power supplies; one +100 VDC power supply, one +16.5 VDC power supply and one -16.5 VDC power supply.
- c. Failure of the following power cabinet power supplies; one +24 VDC power supply and one -24 VDC power supply.

d. A power cabinet phase failure due to loss of thyristor gating.

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QUESTION: 062 (1.00)

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Which ONE of the following provides the reason for stopping all reactor coolant pumps following a Phase "B" isolation?

- a. To prevent damage to the motor because component cooling water to the RCP thermal barrier and bearing oil coolers is isolated.
- b. To prevent overheating of motor windings because component cooling water to the containment coolers is isolated.
- c. Because seal flow instrumentation lines are isolated which prevents adequate monitoring of seal operation.
- d. Because the seal return isolates which prevents adequate seal cooling and lubrication.

Which ONE of the following describes the interlock(s) associated with the automatic start of the Component Cooling Water (CCW) pumps?

- a. If CCW pump "A" local remote switch is placed in the "Local" position, the CCW pump is prevented from auto-start on low header pressure.
- b. CCW pump "C" is prevented from auto-start on an Emergency Load Sequencer signal unless CCW "A" is racked out.
- c. When the CCW headers are split, the standby pump will auto-start on low pressure in either the "A" or "B" header.

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d. If Unit 3 is sequencing due to a loss of voltage when an SI and low voltage signal are received on Unit 4, CCW pumps will trip and NOT sequence on again.

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While responding to inadequate core cooling, the operators are unable to establish high head safety injection. CETs are 1450 deg. F and RCS pressure is 165 psig. Which ONE of the following states the reason for starting the RCPs under these conditions?

- a. Flush nitrogen from S/G tubes so natural circulation flow can be established in subsequent steps.
- b. Provide single phase forced steam flow for temporary cooling to reduce CETs to < 1200 deg. F.

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- c. Assure continued shutdown by adding borated water from the loops to the voided core.
- d. Provide forced primary flow for heat transfer during S/G depressurization.

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QUESTION: 065 (1.00)

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Plant conditions:

- LOCA with SI actuation occurred on Unit 3 - SI has been reset per E-0, step 16

With the conditions given above, a loss of offsite power occurs. Which ONE of the following describes the operation of sequencer 3A?

- a. The 3A EDG breaker will close immediately and ICW pump 3A and CCW pump 3A will be started sequentially.
- b. The 3A EDG breaker will close after a 16 second time delay and ICW pump 3A and CCW pump 3A will be started sequentially.
- c. The 3A EDG breaker will close immediately and RHR pump 3A, HHSI pump 3A, ICW pump 3A, and CCW pump 3A will be started sequentially.

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d. The 3A EDG breaker will close after a 16 second time delay and RHR pump 3A, HHSI pump 3A, ICW pump 3A, and CCW pump 3A will be started sequentially.

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QUESTION: 066 (1.00)

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Which ONE of the following loss of input failures will cause an INVALID "Rod Banks A/B/C/D Extra Low Limit" alarm?

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a. Tavg

b. Tref.

c. NI power range.

d. Delta T.

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QUESTION: 067 (1.00)

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Which ONE of the following parameters when alarming will prevent the 3A emergency diesel generator from auto-starting and loading?

a. Skid tank level.

b. Starting air pressure.

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c. Engine prelube oil temperature.

d. Engine prelube oil pressure.

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QUESTION: 068 (1.00)

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Plant conditions:

- Plant is operating at 100% power
 - All systems are in automatic
 - The following alarms have annunciated:
 - A-5/1, Charging Pump A Trip A-5/2, Charging Pump B Trip A-5/3, Charging Pump C Trip A-4/6, Volume Control Tank High/Low Level

Which ONE of the following describes the immediate actions per ONOP-047.1, Loss of Charging Flow In Modes 1 Through 3, that should be taken in response to these alarms?

- a. After an unsuccessful start of the "A" Charging pump, isolate letdown by closing the orifice isolation valves.
- b. After a successful start of the "B" Charging pump, isolate letdown by closing the orifice isolation valves.
- c. After a successful start of the "B" Charging pump, close the Seal Return Isolation Valve.
- d. After an unsuccessful start of the "C" Charging pump, open the Seal Return Isolation Valve.

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Plant conditions:

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- Plant startup in Mode 2

- Power level is 5E-11 amps in the intermediate range

NOTE: Assume all appropriate normal operations have been completed

Which ONE of the following describes the immediate action to be taken in response to a failure of Source Range channel N-31?

a. Verify reactor trip, if applicable.

b. Switch the NIS recorder to N-32.

c. Manually insert all control rods.

d. Place the Level Trip switch in Bypass.

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QUESTION: 070 (1.00)

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A steam generator tube leak is causing the charging system to makeup to the RCS an additional 145 gallons per day.

Which ONE of the following describes this leak?

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- a. 3 per cent of the allowable leakage from ONE steam generator.
- b. 10 per cent of the allowable leakage from ALL steam generators.
- c. 20 per cent of the allowable leakage from ONE steam generator.
- d. 30 per cent of the allowable leakage from ALL steam generators.
QUESTION: 071 (1.00)

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Which ONE of the following provides protection against core damage for a total loss of main feedwater (both Main Feedwater pumps tripped)?

a. Safety Injection and initiation of Auxiliary Feedwater.

b. Reactor trip and initiation of Auxiliary Feedwater.

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c. Reactor trip and Safety Injection.

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d. Turbine trip and Reactor trip.

QUESTION: 072 (1.00)

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Which ONE of the following indicates a loss of containment integrity?

- a. Containment pressure = 55 psig.
- b. Containment pressure = 27 psig and CV-204, letdown isolation valve, stuck open.
- c. Containment pressure 23 psig and containment spray not operable.
- d. S/G with both a tube rupture and a stuck open safety.

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QUESTION: 073 (1.00)

Following a reactor trip, emergency boration is required due to an uncontrolled cooldown.

Which ONE of the following should be performed FIRST if the emergency boration valve, MOV-350, fails to open from the control room?

- a. Manually open 356 and start a BA transfer pump.
- b. Open LCV-115B and start an additional charging pump.
- c. Manually open emergency boration valve (MOV-350).

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d. Open charging pump RWST suction and close VCT suction.

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QUESTION: 074 (1.00)

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On a loss of offsite power to 4KV bus 3B, which ONE of the following correctly describes the function of the bus clearing relays?

- a. Clear faulted equipment from 4KV bus 3B.
- b. Clear non-essential equipment from 4KV bus 3B and 480 V load centers 3B and 3C.
- c. Permit D/G 3B breaker auto closure if 4KV bus 3B is stripped.

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d. Permit Emergency SU Transfer breaker closure if 4KV bus 3B is stripped.

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Which ONE of the following provides an arming signal to AMSAC?

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a. Turbine first stage pressure.

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- b. Steam generator pressure.
- c. Reactor power.
- d. RCS Tavg.

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QUESTION: 076 (1.00)

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Which ONE of the following actions results in the addition of the largest amount of negative reactivity during performance of FR-S.1, Response to Nuclear Power Generation/ATWS?

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a. Shutting MSIVs.

b. Initiating AFW.

c. Pressurizer PORV opens.

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d. Charging from RWST.

QUESTION: 077 (1.00)

Plant conditions:

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- The plant is operating in MODE 1.
- Two (2) rods fall into the core and light their respective rod bottom lights.

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NOTE: Assume a reactor trip did NOT occur.

Which ONE of the following describes the immediate action to be taken?"

a. If quadrant tilt exists, reduce power.

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b. Shift rod control to manual.

c. Manually trip the reactor.

d. Verify turbine runback.

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QUESTION: 078 (1.00)

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Which ONE of the following can be used to discriminate between a steamline break inside containment and a small break LOCA?

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a. Containment temperature.

b. Containment pressure.

c. RCS temperature.

d. RCS pressure.

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QUESTION: 079 (1.00)

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The remotely operated steam generator blowdown isolation valve, SV6275B, has failed shut.

Which ONE of the following describes the actions required by Technical Specifications?

- a. Restore CONTAINMENT INTEGRITY within 1 hour or commence shutdown to HOT STANDBY within the following 6 hours and COLD SHUTDOWN within the following 30 hours.
- b. This valve has failed in a safe condition, normal operations may continue.
- c. Shut an automatic isolation valve in the steam generator blowdown line within 4 hours to continue normal operations.
- d. This valve must be deenergized within 4 hours to continue normal operations.

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Which ONE of the following describes the operation of the Unit 3 and Unit 4 instrument air cross-connect valves (CV-3-1605 & CV-4-1605)?

- a. Shuts both valves if pressure on both units < 75 psig.
- b. Opens both valves if pressure on one unit decreases to 70 psig.
- c. Shuts both valves if pressure on one unit decreases to 70 psig.

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d. Opens both valves if pressure on both units < 75 psig.

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QUESTION: 081 (1.00)

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During the injection phase of a LOCA with RCS pressure = 840 psig, which ONE of the following correctly describes the flowrates on FI-943 (cold leg SI flow), FI-940 (hot leg SI flow), and FI-605 (RHR injection flow)?

a.	FI-943 = 1000 gpm;	FI-940 = 0 gpm;	$FI-605 \neq 0$ gpm
b.	FI-943 = 800 gpm;	FI-940 = 0 gpm;	FI-605 = 1500 gpm
c.	FI-943 = 600 gpm;	FI-940 = 600 gpm;	FI-605 = 0 gpm
d.	FI-943 = 1000 gpm;	FI-940 = 0 gpm;	FI-605 = 3000 gpm

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QUESTION: 082 (1.00)

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Which ONE of the following reactor trips is prevented when the P-7 permissive is NOT satisfied?

a. Pressurizer High Pressure trip.

b. Turbine trip.

c. Source range trip.

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d. Over pressure / delta T trip.

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QUESTION: 083 (1.00)

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Which ONE of the following describes how the Reactor Trip Breakers (RTBs) and the Bypass Breakers are tripped with any trip signal (manual or automatic) present?

- a. Undervoltage and shunt trip coils for both the RTBs and the Bypass Breakers.
- b. Undervoltage and shunt trip coils on the RTBs; undervoltage coil on the Bypass Breakers.
- c. Undervoltage coil on the RTBs, undervoltage and shunt trip coils on the Bypass Breakers.
- d. Undervoltage coils for RTBs, shunt trip coil on the Bypass Breakers.

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Plant conditions:

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- The reactor is operating at 100% power
- Pressurizer Level Control system is in automatic.
- Pressurizer level transmitter LT-459 is selected for control.
- LT-459 fails low.

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Note: Assume no operator action is taken.

Which ONE of the following describes the plant's response to this failure?

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- a. Charging flow decreases, actual pzr level decreases, letdown flow decreases, and actual pressurizer level stabilizes at setpoint.
- b. Letdown temperature increases, pressurizer spray valve opens when pressure increases above setpoint.
- c. Letdown isolates, charging flow increases, pressurizer level increases and the reactor trips on high pressurizer level.
- d. Letdown isolates, pressurizer heaters de-energize, pressurizer pressure decreases and the reactor trips on low pressure.

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QUESTION: 085 (1.00)

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Initial conditions:

- Pressurizer level is within the program band.

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- Pressurizer pressure is 2235 psig.

Which ONE of the following describes the actions of the pressurizer level control system?

a. When pressurizer level is 5% below the program band, the backup heater groups A and B are de-energized.

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b. When pressurizer level is 5% above the program band, the backup heaters are fully energized.

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- c. When pressurizer level is 5% above the program band, the control heaters are fully energized.
- d. When pressurizer level is 5% below the program band, the control heaters are de-energized.

REACTOR OPERATOR

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QUESTION: 086 (1.00)

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Which ONE of the following describes the purpose of the anti-rotation device on the Reactor Coolant Pumps (RCP's)?

- a. To minimize reverse flow in an idle reactor coolant loop.
- b. To prevent pump impeller damage from reverse rotation of an idle RCP.

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- c. To prevent RCP seal damage from reverse rotation of an idle RCP.
- d. To limit idle pump starting current when another RCP is running.

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QUESTION: 087 (1.00)

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Plant power is at 8% power with power range channel IV (N-44) in test when the Th input to channel II (TE-422B) fails high.

Which ONE of the following signals will be generated?

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- a. 2/4 coincidence Over-Power delta T Reactor Protection System trip signals.
- b. 1/4 coincidence Over-Power delta T turbine runback signal.
- c. 1/3 coincidence Over-Temperature delta T Reactor Protection System trip signal.
- d. 2/3 coincidence Over-Temperature delta T turbine runback signals.

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QUESTION: 088 (1.00)

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Which ONE of the following conditions will cause the source range high voltage power supply to de-energize?

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- a. Either Intermediate Range channel above the P-6 set point.
- b. Intermediate Range channel power supply failure while at power.
- c. Power Range channels I and III greater than the P-10 set point.
- d. Power Range channels II and IV decreasing below the P-8 set point.

Plant conditions:

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- In mode 3 with normal charging and letdown

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- Pressurizer level = 13% and decreasing slowly

Given the conditions above, which ONE of the following describes the status of the letdown lineup?

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a. PCV-145 and LCV-460 open.

b. CV-200A, B, & C and LCV-460 shut.

c. CV-204 and PCV-145 shut.

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d. CV-200A, B, & C and CV-204 shut.

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QUESTION: 090 (1.00)

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A change in which ONE of the following will cause the back pressure on the number 2 seal of a Reactor Coolant Pump (RCP) to change?

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a. VCT level.

b. RCP standpipe level.

c. RCS pressure.

d. Containment pressure.

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QUESTION: 091 (1.00)

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Which ONE of the following Safety Injection signals will initiate a "Main Steam Isolation"?

a. High Steam Line Flow and Low Tavg.

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b. High Steam Line Differential Pressure and low RCS pressure .

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c. Manual Safety Injection.

d. Low Pressurizer Pressure.

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QUESTION: 092 (1.00)

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While operating at 95% thermal power, the S/G "C" low level alarm is actuated. Which ONE of the following actions is the responsibility of the balance of plant operator (BOP) if no direction is provided by the SRO?

- a. Report the alarm only.
- b. Report the alarm, monitor condensate and feed system parameters, and report the cause of the low level condition.
- c. Report the alarm, monitor condensate and feed system parameters, and recommend actions for the SRO's consideration.
- d. Report the alarm, take manual control and restore level, and monitor condensate and feed system parameters.

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QUESTION: 093 (1.00)

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A plant startup is in progress when a rod control system failure initiates a LOGIC CAB URG FAILURE alarm.

Which ONE of the following describes a failure that can cause this alarm and the impact on the operation of the rod control system?

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a. Pulser failure; stops all rod motion.

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b. Multiplexing error; stops all rod motion.

c. Phase failure; stops automatic rod motion.

d. Redundant power supply failure; stops automatic rod motion .

QUESTION: 094 (1.00)

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Which ONE of the following is REQUIRED for an operator entering an area where the radiation level is such that he or she could receive a dose in excess of 300 mr in any five consecutive days?

a. TLD and direct reading dosimeter (DRD).

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- b. TLD, DRD and an instrument that continuously indicates the dose rate in the area.
- c. TLD, DRD and a rad monitoring instrument that alarms at a preset integrated dose.
- d. TLD, DRD and accompanied by a qualified person with a dose rate monitoring instrument.

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QUESTION: 095 (1.00)

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Which ONE of the following procedure categories requires that the control room OTSC file be checked for outstanding OTSCs before the procedure is used?

- a. OPs
- b. EOPs
- c. ONOPs
- d. EPIPs

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QUESTION: 096 (1.00)

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A rupture of the Component Cooling Water piping in the Cask Wash Area has occurred, the leak has been isolated. The plant is being shutdown and will be cooled down to facilitate repairs.

Which ONE of the following describes how the Charging/Letdown system is operated during the shutdown?

- a. Dispatch an operator to connect emergency cooling water supplies to the seal return cooler.
- b. Letdown is isolated and the charging pumps are alternated to provide seal injection flow.
- c. Increase seal injection flow to prevent overheating of the RCP seals and thermal barriers.
- d. Take manual control of the letdown temperature control valve and open the 45 gpm orifice isolation valve.

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QUESTION: 097 (1.00)

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While cooling down the plant from hot standby to cold shutdown, which ONE of the following would be the limiting parameter if cooldown at the maximum rate was desired after going on RHR?

- a. Letdown temperature.
- b. CCW supply temperature.

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c. Charging temperature.

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d. CCW return temperature.

QUESTION: 098 (1.00)

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Plant conditions:

- Unit 3 is in Mode 3.
- Unit 3 Auxiliary Feedwater (AFW) system train 1 is INOPERABLE.
- Unit 3 Condensate Storage Tank (CST) level is 200,000 gal.
- Unit 4 is in Mode 1.

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- Unit 4 Condensate Storage Tank (CST) level is 125,000 gal.

Which ONE of the following describes the minimum action(s) required by Technical Specifications?

- a. Restore the inoperable AFW system to an OPERABLE status.
- b. Restore the inoperable CST level to an OPERABLE status.
- c. Restore Unit 3's inoperable AFW system and Unit 4's CST level to an OPERABLE status.

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d. Restore Unit 3's, inoperable AFW system and both units' CST level to an OPERABLE status.

QUESTION: 099 (1.00)

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Due to a failure of CV-3-2816, AFW flow control valve to Steam Generator "3A" AND AFW flow to Steam Generator "4A" is not available.

Which ONE of the following actions is required by Technical Specifications?

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- a. No action is required since a flow path to SG-3B and SG-3C is still available.
- b. Continued operations for up to 30 days is permitted if AFW pump C is verified lined up to train 1.
- c. If this flow path cannot be restored within 72 hours, place both units 3 and 4 in HOT STANDBY within 6 hours and HOT SHUTDOWN within the following 6 hours.
- d. If this flow path cannot be restored within 72 hours, place both unit 3 and 4 in HOT STANDBY within 12 hours and HOT SHUTDOWN within the following 6 hours.

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QUESTION: 100 (1.00)

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Which ONE of the following requires emergency boration?

- a. One shutdown rod stuck full out after reactor trip.
- b. Control rod position indicators below bank insertion low limit while operating in mode 1.
- c. Steam dump system failure reduces Tavg to < 540 deg. F following reactor trip.

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d. Control rod position indicators below bank insertion limit while operating in mode 1.

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ENCLOSURE 3

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FACILITY COMMENTS

SRO and RO EXAMINATIONS

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Question #28.

Facility Comment: Distractor "d"; performance of valve alignments, are typically thought of as the system valve alignments and DO NOT have to be done in sequential order. However, valve alignments that appear within the body of a procedure MUST be done in sequential order (unless specified in the procedure).

Included are two procedures that demonstrate the above mentioned situation. One example is from OP-41.8 for filling and venting the RCS. Another is from OP-201 for Filling/Draining the Refueling Cavity and the SFP Transfer Canal.

Facility Recommendation: Based on this information, both answers "b" and "d" should be considered for being correct answers.

Question #35.

Facility Comment: In accordance with ADM-212 (included), the APSN or the NWE shall authorize/approve all clearance orders by signing the Clearance Order form. If the clearance involves a safety related component, then the PSN or the APSN shall perform an independent review of the clearance and shall authorize/approve the clearance by signing the Clearance Order form.

After the RCO completes a clearance, the NWE will review the clearance. If the clearance involves a safety related component, the NWE will give the clearance to the APSN or the PSN for final authorization/approval.

A clarification for the question was made to the students during the exam that stated the "first signature" was the one of interest. Based on this clarification, this would also make choice "d" a correct answer.

Facility Recommendation: Consideration should be given to making <u>both</u> "c" and "d" correct answers for this question.

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Enclosure 3

RO EXAMINATION

Question #98.

Facility Comment: The question is asking; Which ONE of the following describes the MINIMUM action(s) required by Technical Specification. With the given plant conditions there are two applicable LCOs.

- 1) 72 hour LCO for Train I AFW on Unit 3
- 2) 4 hour LCO that applies to both units based on the inventory in the CST's being below a combined volume of 370,000 gallons.

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Since both of these LCO's are required to be satisfied for continued operation of the units, they would both fall under the MINIMUM actions that are required. The correct answer by the answer key reflects which one of the following describes the MOST LIMITING action(s) required by Technical Specifications.

In reviewing the possible selections, none of them fit the minimum actions required by Technical Specifications.

- a) only states the requirement for the inoperable AFW train which is neither the MINIMUM or MOST LIMITING.
- b) only states the requirements for the CST system which is the MOST LIMITING but not the MINIMUM.
- c) states both requirements but incorrectly refers to the CST system. It implies that you must restore Unit 4 CST when all you are concerned about is a total volume of both and tanks.
- d) states both requirements but incorrectly refers to the CST system. It implies that there is a problem with both units' CSTs. All that needs to be done is to add 45,000 gallons to either CST to meet the requirements of the LCO.

Since none of the choices describes the MINIMUM actions(s) required there is no correct answer to the question. The apparent intent of the question was to ask what is MOST LIMITING.

Facilty Recommendation: Based on the above information, the question should be considered for <u>deletion</u> since there are NO correct answers.

Question #100.

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Facility Comment: Due to a recent procedure change there are NO correct answers for this question. The applicable procedure, ONOP-046.1, has been included for your review. As you can see the ONOP no longer requires Emergency Boration to be immediately commenced for control rods being below the "LO-LO" insertion limit. The reason for this change is the recent revision to our plant Technical Specification which allows operation below the rod insertion limit for up to two hours.

Facility Recommendation: Based on how the revised procedure has impacted the exam question, the question should be considered for <u>deletion</u> since it is no longer valid.

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ENCLOSURE 4

NRC_RESOLUTION OF FACILITY COMMENTS

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SRO and RO EXAMINATION

Question #28

NRC Resolution: Comment not accepted. The facility's comment argued that "alignment" could have two meanings, one of which required that the valves be positioned sequentially per the steps of a procedure. This interpretation is contrary to that of ADM-201 where valve/breaker alignments are equated to "attachments" listing required valve or breaker positions. Positioning of these valves and breakers is not required to be sequential. The facility's alternate interpretation of "alignment" is clearly the performance of procedure steps that, in some cases, would have involved the positioning of valves. Even if the facility's interpretation was allowed, the only answer to the question that is always true is "b".

Question #35

NRC Resolution: Comment accepted. The clarification provided by the examiner made "d" the correct answer. However, credit has been given for "c" (the original correct answer) also because the comment was given late in the examination which resulted in some confusion for the candidates.

RO EXAMINATION

Question #98

NRC Resolution: Comment noted. The question was written based on a Technical Specification interpretation that considered each CST separately. The Technical Specification was actually applicable to the combined CST volume. It is agreed there is no correct answer and the question will be modified before future use. This question had no adverse impact on the pass/fail status of the candidates.

Question #100

NRC Resolution: Comment accepted. A procedure change has invalidated the correct answer. The question has been deleted from the exam.

ENCLOSURE 5

SIMULATOR FACILITY REPORT

Facility Licensee: Turkey Point Nuclear Plant

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Facility Docket Nos.: 50-250 and 50-251

Operating Tests Administered On: Weeks of September 30 and October 7, 1991

This form is to be used only to report observations. These observations do not constitute, in and of themselves, 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 solely in response to these observations.

During the conduct of the simulator portion of the operating tests, the following item was observed:

Item

Description

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Main Feedwater Line Rupture Inside Containment

During a Main Feedwater Line rupture on 3B S/G inside containment, the AFW flow control valves (FCV-3-2832 and FCV-3-2817) were failed open. Due to the magnitude of the break (100 percent), the S/G immediately blew down to below the indicating band and reactor temperature decreased. All AFW flow (due to the FCV malfunctions) was pouring out the line break into containment and provided no cooling to any S/Gs. Eventual coolant temperature was about 70 degrees below pre-break Tavg by the time the candidates took local manual control of the FCVs (about 10 minutes elapsed time). After the 'initial blowdown, the transient was expected to respond similar to a Main Steamline Break. However, the amount of cooldown was more than anticipated and may be indicative of a simulator modeling problem.