

FACILITY NAME: Robinson

Section 9

REPORT NUMBER: 2009-301

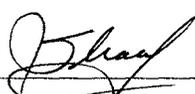
FINAL SRO WRITTEN EXAM

CONTENTS:

- Final SRO Written Exam (25 'as given' questions with changes made during administration annotated)
- Reference Handouts Provided To Applicants
- Answer Key *in 120 section*

Location of Electronic Files:

Submitted By: 

Verified By: 

76.

Given the following:

- Unit is in Mode 3 at 547°F.
- PZR PORV, PCV-456 fails partially open and when it's control switch was taken to CLOSE, nothing happened.
- AOP-019, Malfunction of RCS Pressure Control, has been entered and RCS pressure has been stabilized.

Which ONE (1) of the following describes the actions and status of PZR PORV operability?

Isolate the PZR PORV by closing PZR PORV Block valve RC-535 AND.....

- A. remove power.
PZR PORV is inoperable with the plant in a 72 hour LCO.
- B. remove power.
PZR PORV is operable since safety function is maintained.
- C. leave energized.
PZR PORV is inoperable with the plant in a 72 hour LCO.
- D. leave energized.
PZR PORV is operable since safety function is maintained.

77.

Given the following:

- Plant was at 100% RTP.
- All Main Feedwater was lost.
- The crew is monitoring RTGB indications associated with the loss of feedwater.

Which ONE (1) of the following lists of instrumentation can be relied upon for monitoring IAW Reg. Guide 1.97 and are Type A, Category 1 variables?

Edgewise indicator(s) for the following:

- A. NR S/G level
Condensate header pressure
- B. WR S/G level
Condensate header pressure
- C. NR S/G level
CST Level
- D. WR S/G level
CST Level

78.

Given the following:

- A Station Blackout has occurred from 100% RTP.
- The crew is performing actions of EPP-1, Loss of All AC Power. Immediate actions are complete.
- "A" CCW pump is running.
- Offsite power is restored and the START UP TRANSF ENERGIZED white light is ILLUMINATED.

Which ONE (1) of the following describes the procedural guidance for restoring power from offsite AND which lockout(s) will have to be reset to accomplish this electrical lineup?

- A. OP-602, Dedicated Shutdown System. VERIFY Main Generator Lockouts 86P and 86BU have been reset.
- B. OP-602, Dedicated Shutdown System. VERIFY the 115 KV Span Bus Lockout has been reset.
- C. OP-603, Electrical Distribution. VERIFY Main Generator Lockouts 86P and 86BU have been reset.
- D. OP-603, Electrical Distribution. VERIFY the 115 KV Span Bus Lockout has been reset.

79.

Given the following:

- Unit operating in Mode 1 at 35% RTP.
- 125V DC Bus B has been lost due to faulty straps between the bus and batteries.
- PATH-1 has been entered for Reactor Trip.

Which ONE (1) of the following describes the plant control power that is lost and the procedure transition required?

Control power has been lost to 4KV Buses (1). Entry to EPP-27, Loss of DC Bus B will be from (2).

A. 3 & 4

EPP-4, Reactor Trip Response

B. 3 & 4

EPP-7, SI Termination

C. 1 & 2

EPP-4, Reactor Trip Response

D. 1 & 2

EPP-7, SI Termination

80.

Given the following:

- Plant is operating under a Reliability Alert due to numerous base load plants being out of service.
- APP-009-D7, GEN LO FREQ, is in alarm.
- The Load Dispatcher has notified the Control Room crew that all spinning reserves have been loaded.
- Main generator frequency is 59.1 Hz and stable.
- Reactor power had increased to 101% and the BOP operator reduced turbine load using the limiter. Reactor power is currently at 98.5% and stable.
- Generator parameters are currently as follows: GEN Phase A Phase B Volts = 22KV, GEN Phase C Amps = 21.9KA.
- The Load Dispatcher has requested maximum power generation.

Which ONE (1) of the following describes the appropriate response to the Load Dispatcher? **(Reference Provided)**

At the current main generator frequency,.....

- A. load must be reduced on the generator, but will be able to remain on line.
- B. load must be reduced on the generator, but Reactor Trip will be required in 5 minutes.
- C. generator capability is available, and power could be increased to 100% load.
- D. generator capability is available, but Reactor Trip will be required in 5 minutes.

81.

Given the following:

- Reactor trip has occurred due to both Main Feedwater Pump motors being grounded out.
- All AFW Pumps fail to start.
- PATH-1 has been entered and transition to EPP-4, Reactor Trip Response, has been made.
- SPDS has been reset, CSFST monitoring has been initiated and the crew has been directed to enter FRP-H.1, Response to Loss of Secondary Heat Sink.
- Wide Range S/G levels are at 28% and lowering.

Which ONE (1) of the following describes the actions required to restore a heat sink IAW FRP-H.1?

- A. Initiate SI, then open ONLY ONE (1) PZR PORV to establish RCS bleed and feed operation.
- B. Initiate SI, then open BOTH PZR PORVs to establish RCS bleed and feed operation.
- C. Depressurize ALL S/Gs to between 240 - 600 psig to allow the Condensate System to refill the S/Gs.
- D. Depressurize ONLY ONE (1) S/G to between 240 - 600 psig to allow the Condensate System to refill the S/G.

82.

Given the following:

- Plant is in MODE 1.
- OST-011, Rod Cluster Control Exercise and Rod Position Indication, is in progress with testing of Control Bank D.
- The RO is withdrawing Control Bank D rods to restore them to their pretest position.
- The RO releases the IN-HOLD-OUT lever.

Which ONE (1) of the following would indicate an uncontrolled rod withdrawal event is in progress AND the maximum initial power level required for the performance of this test IAW OST-011?

A turbine runback would occur due to (1). Reactor power less than (2).

- A. (1) Overpower Delta T bistables actuating from the Tave increase
(2) 98%
- B. (1) Overtemperature Delta T bistables actuating from the PZR Pressure increase
(2) 98%
- C. (1) Overpower Delta T bistables actuating from the Tave increase
(2) 90%
- D. (1) Overtemperature Delta T bistables actuating from the PZR Pressure increase
(2) 90%

83.

Given the following:

- Plant in MODE 1 at 100% RTP.
- R-20, Fuel Handling Building Lower Level annunciates.
- Inside AO has been dispatched to investigate.
- The Inside AO reports that the "in service" WGDT is depressurizing.

Which ONE (1) of the following describes the procedural entry required and actions that must be accomplished to mitigate this event?

A. AOP-009, Accidental Gas Release from a WGDT.

Start HVE-15A, FUEL HANDLING BUILDING EXHAUST FAN and place leaking WGDT in Standby.

B. AOP-009, Accidental Gas Release from a WGDT.

Start HVE-5A **OR** HVE-5B, AUX BLDG CHARCOAL EXH FAN and place leaking WGDT on Cover Gas.

C. AOP-005, Radiation Monitoring System.

Start HVE-15A, FUEL HANDLING BUILDING EXHAUST FAN and place leaking WGDT in Standby.

D. AOP-005, Radiation Monitoring System.

Start HVE-5A **OR** HVE-5B, AUX BLDG CHARCOAL EXH FAN and place leaking WGDT on Cover Gas.

84.

Given the following:

- Plant is operating in Mode 1 at 100% RTP.
- Fuel failure of $> 0.1\%$ and $< 1.0\%$ has been detected through the RCS chemistry sample.

Which ONE (1) of the following describes the proper R-9 radiation monitor response to the given conditions?

R-9 monitor should read

- A. 0.25 R/hr.
- B. 1.0 R/hr.
- C. 25 R/hr.
- D. 100 R/hr.

85.

Given the following:

- PATH-1 has been implemented following a steam line break inside the CV.
- The step has been reached which requires stopping CV Spray pumps.

Which ONE (1) of the following describes the reason for stopping CV Spray pumps and the basis for the actions required for the CV Spray Pump Discharge Valves IAW PATH-1?

Securing the pumps prevents.....

- A. RWST depletion.
Positions the valves for immediate re-initiation of Spray if required.
- B. pump runout.
Ensures CV isolation and prevents gas binding of the pumps.
- C. pump runout.
Positions the valves for immediate re-initiation of Spray if required.
- D. RWST depletion.
Ensures CV isolation and prevents gas binding of the pumps.

86.

Given the following:

- Plant is operating in Mode 1 at 98% RTP.
- RCS Loop 3 Tave / Delta T has been removed from service IAW OWP-028, T / Delta T-3 due to a failure of the cold leg RTD.
- I&C personnel are currently working on repairs and project that the work will not be completed for another 20 hours due to the RTD testing in a bath at the I&C lab.
- I&C Supervisor has just notified the CRSS that a recently completed calibration on Power Range channel N-41 has a module that fell outside of its tolerance band and N-41 is inoperable.

Which ONE (1) of the following minimum actions is required to maintain compliance with ITS?

- A. Reduce reactor power to \leq 75% RTP within 7 hours.
- B. Place the plant in Mode 3 within 7 hours.
- C. Reduce reactor power to \leq 75% RTP within 12 hours.
- D. Place the plant in Mode 3 within 12 hours.

87.

Given the following:

- Mode 1 at 100% RTP.
- The reactor has been tripped and SI initiated due to a steam line break inside Containment on the "A" S/G.
- Transition has been made to EPP-11, Faulted Steam Generator Isolation.

Which ONE (1) of the following statements is a bases for steps that isolate feed flow to and steam flow from the faulted S/G IAW EPP-11BD?

- A. Allows maximum cooldown capability of the non-faulted S/Gs.
- B. Minimizes mass and energy releases to Containment.
- C. Minimizes radiological releases to Containment.
- D. Allows a faster repressurization of the RCS.

88.

Given the following:

- Mode 6 with core offload in progress to the Spent Fuel Pit.
- Maintenance has requested permission to change 4 battery cells on Station Battery A.

Which ONE (1) of the following describes the operational limitations and ITS LCO requirements for this maintenance activity?

- A. Fuel movement must be stopped.
DC Train A will be inoperable when the battery cell is disconnected.
- B. Fuel movement must be stopped.
The unit will be in a 2 hour LCO action statement during the cell changeout.
- C. Fuel movement may continue.
No LCO applies provided that an A Train Battery Charger is supplying DC Bus A.
- D. Fuel movement may continue.
No LCO applies provided that DC Bus B is operable.

89.

Given the following:

- Plant in Mode 1 at 100% RTP.
- A hostile attack has resulted in damage to the intake structure and the loss of ALL Service Water Pumps.
- EPP-4, Reactor Trip Response, was entered.

Which ONE (1) of the following describes the required procedure transition and what actions are taken to support critical equipment?

A. EPP-28, Loss of Ultimate Heat Sink

Deepwell Pump D is aligned to ONE (1) EDG.

B. EPP-28, Loss of Ultimate Heat Sink

Deepwell Pump D is aligned to BOTH EDGs.

C. AOP-022, Loss of Service Water

Align Unit #1 Deepwell Pump to supply seal and bearing cooling to the Circulating Water Pumps.

D. AOP-022, Loss of Service Water

Align emergency cooling to the Motor Driven AFW Pump oil coolers.

90.

Given the following:

- Unit is currently in Mode 3 with GP-007, Plant Cooldown from Hot Shutdown to Cold Shutdown, in progress.

Which ONE (1) of the following describes the procedural controls for CV entries and any restrictions that apply to the scope of the activities?

A. PLP-006, Containment Vessel Inspection / Closeout, controls the entries.

Prestaging of equipment must meet the requirements of PLP-006 until Mode 5 is entered.

B. PLP-006, Containment Vessel Inspection / Closeout, controls the entries.

Prestaging of equipment is NOT allowed until the unit has entered Mode 5.

C. OMM-033, Implementation of CV Closure, controls the entries.

Prestaging of equipment must meet the requirements of OMM-033 until Mode 5 is entered.

D. OMM-033, Implementation of CV Closure, controls the entries.

Prestaging of equipment is NOT allowed until the unit has entered Mode 5.

91.

Given the following:

- Unit in Mode 1 at 100% RTP.
- R-12, Containment Radioactive Gas Monitor, is in service.
- OWP-002, CV-2, for Containment Purge Supply Inner Valve, was implemented to repair an Instrument Air fitting leak on V12-7, Containment Purge Supply Inner Valve, discovered during a Containment entry.
- Maintenance has now been completed and PMT requires a Containment Purge to return the valve to service.

R-11, Containment Particulate

R-14C, Main Vent Stack (Low Range Noble Gas)

Which ONE (1) of the following describes additional instrumentation required to be in operation to meet the minimum required instrumentation to place the CV Purge in service IAW OP-921, Containment Air Handling?

- A. None. R-12 is sufficient.
- B. R-11 ONLY.
- C. R-14C ONLY.
- D. R-11 and R-14C.

92.

Given the following:

- Waste Condensate Tank "A" is being prepared for release.
- Tank pH was sampled and found to be too low.

Which ONE (1) of the following describes the impact of this sample on the recirculation requirements and the adjustments necessary for tank pH prior to release IAW OP-705, Waste Liquid Release and Recirculation, and the National Pollutant Discharge Elimination System (NPDES)?

The Tank must be recircled for

- A. 1 hour and the pH adjusted to > 6.0 .
- B. 2.5 hours and the pH adjusted to > 6.0 .
- C. 1 hour and the pH adjusted to > 5.0 .
- D. 2.5 hours and the pH adjusted to > 5.0 .

93.

Given the following:

- The Waste Gas System is aligned with Waste Gas Decay Tank (WGDT) B in Standby.
- The Inservice WGDT pressure is increasing due to current sluicing operations with the Spent Resin Storage Tank.
- Oxygen sample results are 4.5%.

Which ONE (1) of the following describes the method pressure will be controlled in the "In Service" WGDT and what action is required for the oxygen concentration IAW TRM 3.20?

- A. Standby WGDT will be automatically placed in service at 110 psig.
Restore oxygen concentration to less than 4% within 48 hours.
- B. Standby WGDT will be automatically placed in service at 80 psig.
Restore oxygen concentration to less than 2% within 48 hours.
- C. Standby WGDT must be manually placed in service at 110 psig.
Restore oxygen concentration to less than 4% within 48 hours.
- D. Standby WGDT must be manually placed in service at 80 psig.
Restore oxygen concentration to less than 2% within 48 hours.

94.

Given the following:

- Plant in MODE 1 at 100% RTP.
- EDG A is being tested IAW OST-401-1, EDG A Slow Speed Start.
- The EDG is loaded to maximum continuous load.
- The first set of data for Attachment 10.2, Emergency Diesel Generator Data Sheet, has the cylinder temperatures listed below:

1. 1080°F 2. 1095°F 3. 1100°F 4. 1107°F 5. 1120°F 6. 1142°F

7. 1075°F 8. 1090°F 9. 1145°F 10. 1130°F 11. 1110°F 12. 1138°F

As the data is being reviewed for acceptance criteria, Service Water Pump C trips.

Which ONE (1) of the following describes the operability of the EDG based on the cylinder temperatures and ITS requirements? **(Reference provided)**

EDG A.....

- A. shall be declared INOPERABLE based on these cylinder temperatures. Remain in LCO 3.8.1 Condition B and restore operability within 24 hours.
- B. shall be declared INOPERABLE based on these cylinder temperatures. Remain in LCO 3.8.1 Condition B and declare redundant features supported by the inoperable EDG inoperable within 4 hours.
- C. is OPERABLE based on these cylinder temperatures. Remain in LCO 3.8.1 Condition B and restore operability within 24 hours.
- D. is OPERABLE based on these cylinder temperatures. Remain in LCO 3.8.1 Condition B and declare redundant features supported by the inoperable EDG inoperable within 4 hours.

95.

Given the following:

- Unit in Mode 6 for refueling outage.
- The letdown line has been removed from service and cleared for maintenance.
- Maintenance personnel have welded several new vent valves in the letdown line.
- An approved procedure has been provided with the work order package to perform the line hydrostatic test following installation.
- A clearance boundary change must be implemented to initiate the system hydrostatic test.

Complete the statement below to remain in compliance with procedure OPS-NGGC-1301, Equipment Clearance.

The Principal Clearance Holder and (1) will determine the Affected Employees for the clearance boundary change and (2) will provide concurrence for the Maintenance personnel to introduce fluids into the clearance boundary for the system hydrostatic test.

- A. (1) an SRO
(2) a WCC SRO
- B. (1) a Maintenance Supervisor
(2) a CRSS
- C. (1) an SRO
(2) a CRSS
- D. (1) a Maintenance Supervisor
(2) a WCC SRO

96.

Given the following:

- The plant is in No Mode with all fuel offloaded to the SFP.
- Cooling has been lost to the SFP Heat Exchanger.

Which ONE (1) of the following procedures provides available contingency procedures to implement for this loss of decay heat removal AND which procedure is referenced for this condition?

- A. OMM-048, Work Coordination and Risk Assessment
AOP-014, CCW System Malfunction
- B. OMM-046, Control of Key Safety Functions During Shutdown
AOP-014, CCW System Malfunction
- C. OMM-048, Work Coordination and Risk Assessment
AOP-036, SFP Events
- D. OMM-046, Control of Key Safety Functions During Shutdown
AOP-036, SFP Events

97.

Given the following:

- Waste Condensate Tank "A" is going to be released.
- R-18, Liquid Waste Disposal Effluent, is in service and it's setpoint is set for the value on the Liquid Waste Release Permit.
- WD-1785, Liquid Waste Release Manual Isolation, has been unlocked and opened.
- WD-1785B, FIT-1064 throttle valve, has been throttled IAW the Waste Release Permit and the WCT Pump has been started.
- Estimated release time for this release is 16 hours.

Which ONE (1) of the following describes ODCM Section 2.6 required actions if FIT-1064, Waste Discharge Flowmeter, becomes inoperable during the release?

The release.....

- A. may continue as long as flowrate is estimated at least once every 4 hours during release.
- B. may continue as long as flowrate is estimated at least once every 8 hours during release.
- C. must be terminated. 2 independent samples required prior to release via this pathway.
- D. must be terminated. 2 personnel must independently verify the lineup prior to release via this pathway.

98.

Given the following:

- A General Emergency has been declared.
- All Emergency Response Facilities have been activated.
- A mechanic must be dispatched from the Operations Support Center to the Pipe Alley into a radiation field of 120 Rem/hr to isolate the pathway from the CV to terminate the release point.
- The Pipe Alley entry is projected to take 15 minutes.
- Both available volunteers have been briefed on the risks involved.

Mechanic "A" is 49 years old

Mechanic "B" is 35 years old

Which ONE (1) of the following describes the individual that should be selected to perform the assigned task IAW EPOSC-04, Emergency Work Control, and who will authorize the entry?

Mechanic (1) should be chosen. The (2) will authorize the entry.

- A. (1) "A"
(2) Emergency Response Manager (ERM)
- B. (1) "A"
(2) Site Emergency Coordinator (SEC)
- C. (1) "B"
(2) Emergency Response Manager (ERM)
- D. (1) "B"
(2) Site Emergency Coordinator (SEC)

99.

During the implementation of the EOP network foldout procedures, which ONE (1) of the following describes the responsibilities and required actions of the CRSS IAW OMM-022, Emergency Operating Procedures User's Guide?

As a minimum, the CRSS is required to review the.....

- A. headers of the criteria contained in each foldout with the crew when the foldout becomes applicable. ONLY 1 foldout is applicable at any given time.
- B. headers of the criteria contained in each foldout with the crew when the foldout becomes applicable. Once a foldout is applicable, it and all subsequent foldouts remain in effect until the EOP network is exited.
- C. individual criteria contained in each foldout with the crew when the foldout becomes applicable. ONLY 1 foldout is applicable at any given time.
- D. individual criteria contained in each foldout with the crew when the foldout becomes applicable. Once a foldout is applicable, it and all subsequent foldouts remain in effect until the EOP network is exited.

100.

Given the following:

- Plant in Mode 1 at 100% RTP.
- RCS leakage of 80 gpm has been determined.
- Loss of Offsite Power in coincidence with a steam line break in the CV occurred 20 minutes ago.
- EDG B failed to start and CANNOT be started.
- Due to a flange leak, flow for the CV Air Recirc Coolers is as follows:
 - HVH-1 is 900 GPM
 - HVH-2 is 650 GPM
 - HVH-3 is 875 GPM
 - HVH-4 is 900 GPM
- CV Pressure is 15 psig.
- RVLIS Full Range level is 91%.
- CSFST status:
 - Subcriticality - GREEN
 - Core Cooling - YELLOW
 - Heat Sink - YELLOW
 - RCS Integrity - GREEN
 - Containment - YELLOW
 - Inventory - YELLOW

Which ONE (1) of the following describes the current Emergency Action Level (EAL) classification? **(Reference Provided)**

- A. Site Area Emergency - Loss of power.
- B. Site Area Emergency - Loss or potential loss of any 2 Fission Product Barriers.
- C. Alert - Loss of power.
- D. Alert - Loss or potential loss of either Fuel Clad or RCS.

References:

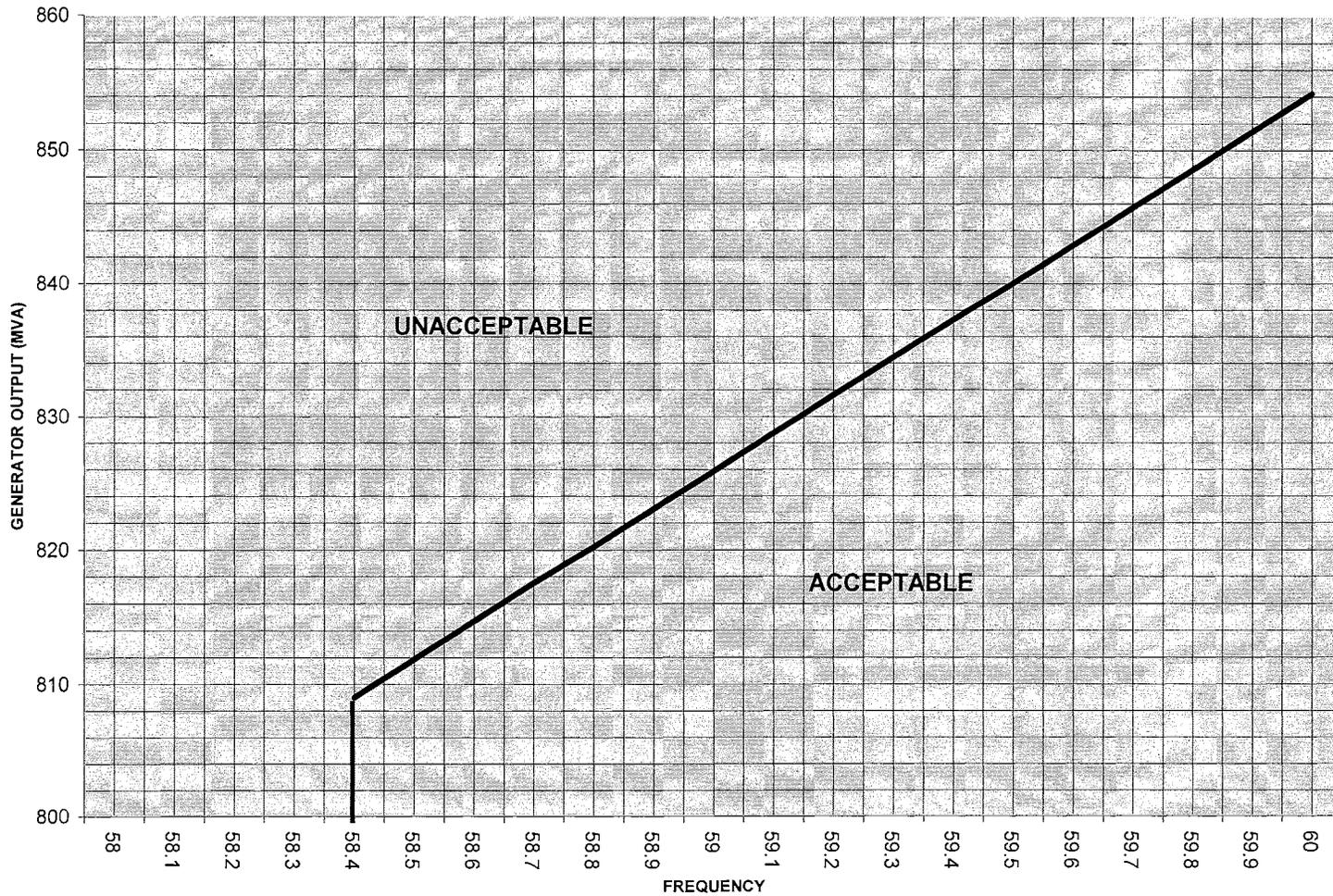
ILC09 NRC

Written Exam

ATTACHMENT 1
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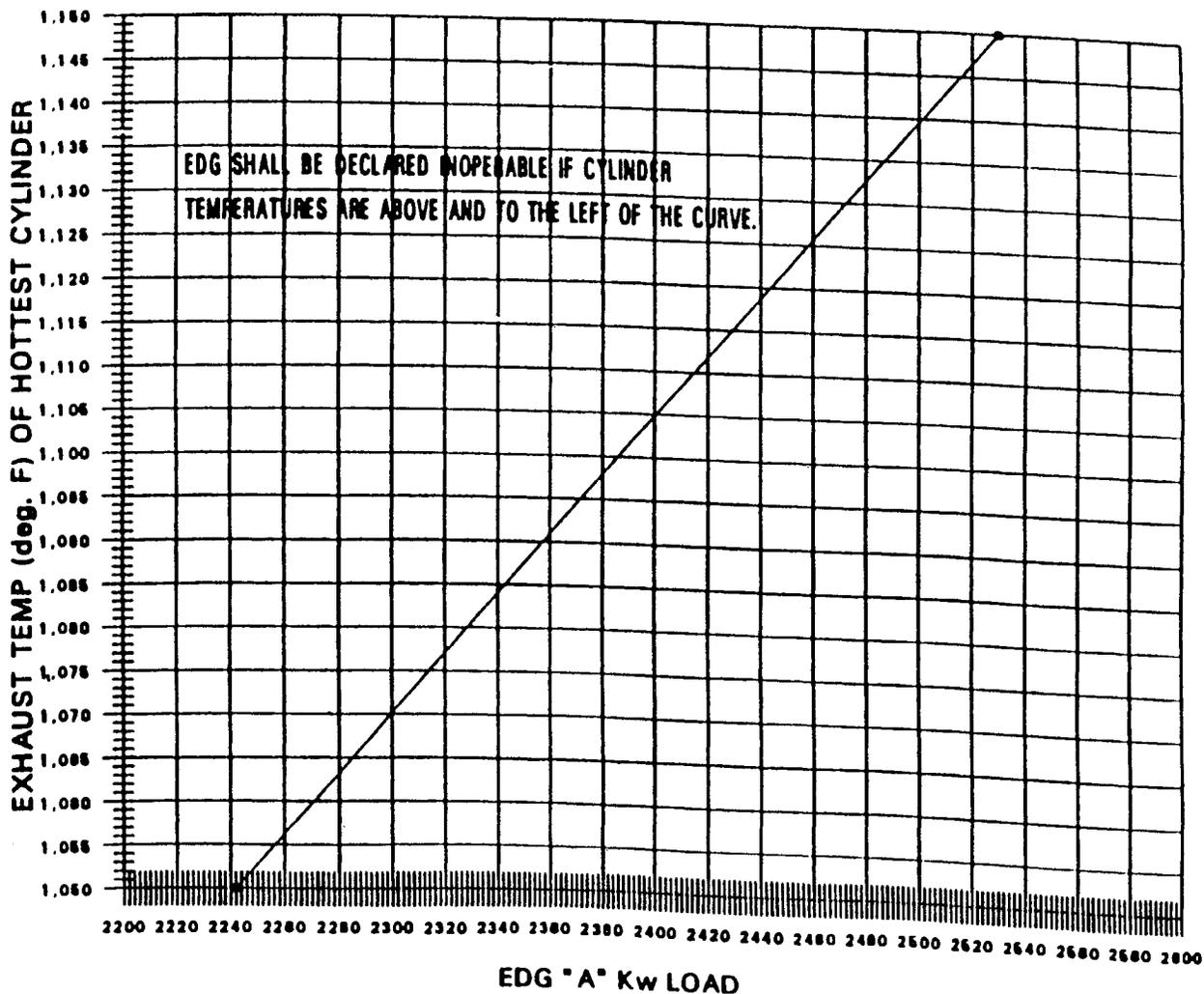
MAXIMUM GENERATOR MVA OUTPUT vs SYSTEM FREQUENCY

MVA = 1.73 (GEN ϕ A ϕ B KVOLTS) (GEN ϕ C KAMPS)



EMERGENCY DIESEL GENERATOR DATA SHEET

EDG "A" Cylinder Temperature Acceptance Criteria



Emergency Action Level Matrixes

- HOT Conditions – Rev. 2
- ALL Conditions – Rev. 2

Provided as Separate
Handouts