

FACILITY POST-EXAMINATION COMMENTS

FOR THE KEWAUNEE INITIAL EXAMINATION - NOVEMBER 2005

Dominion Energy Kewaunee, Inc.
N490 Highway 42, Kewaunee, WI 54216-9511



Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
2443 Warrenville Road
Suite 210
Lisle, IL 60532-4352

NOV 24 2005

Serial No. 05-815
KPS/LIC/MJH: RO
Docket No. 50-305
License No. DPR-43

ATTENTION: Mr. Bruce Palagi, R-III/DRS

**DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
OPERATOR LICENSE EXAMINATION**

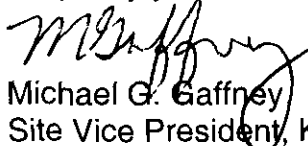
In accordance with the requirements of NUREG-1021, ES-501, the required post-examination material and the written examination facility comments are enclosed. Forms ES-201-3, "Examination Security Agreement," will be forwarded to you as soon as the required signatures are obtained.

A review was conducted of the RO/SRO written examination administered Friday, November 18, 2005, at the Kewaunee Power Station. The review identified errors in two questions that were not identified prior to exam administration. The following is being requested:

RO Exam #	SRO Exam #	Comment	Supporting Documentation
34	34	Accept two correct answers	Enclosures 2,3
67	67	Accept the post-exam pen and ink change. The answer remains the same.	Enclosures 4,5

We apologize for any inconvenience this may cause.

Very truly yours,


Michael G. Gaffney
Site Vice President, Kewaunee Power Station

Enclosures

Commitments made by this letter: NONE

cc: Without enclosures
Mr. S. C. Burton
NRC Senior Resident Inspector
Kewaunee Power Station

Serial No. 05-815
Operator License Examination

NOV 28 2005



DEC 15 2005

Regional Administrator, Region III
U. S. Nuclear Regulatory Commission
2443 Warrenville Road
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Serial No. 05-815A
KPS/LIC/GR: RO
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Attention: Mr. Bruce Palagi, R-III/DRS

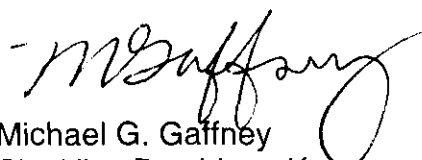
DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
OPERATOR LICENSE EXAMINATION – CORRECTION

In a letter dated November 24, 2005, Dominion Energy Kewaunee, Inc. (DEK) submitted post-examination material and the written examination facility comments. The letter enclosures were marked "WITHHOLD FROM PUBLIC DISCLOSURE UNDER 10 CFR 2.390." On further review, DEK determined that some of the information submitted did not meet the criteria of 10 CFR 2.390.

Therefore, DEK requests that only the student names and the graded examinations be withheld from public disclosure under 10 CFR 2.390.

If you have questions or require additional information, please feel free to contact Mr. Gerald Riste at 920-388-8424.

Very truly yours,


Michael G. Gaffney
Site Vice President, Kewaunee Power Station

Commitments made by this letter: NONE

cc: S. C. Burton
NRC Senior Resident Inspector
Kewaunee Power Station

WITHHOLD FROM PUBLIC DISCLOSURE UNDER 10 CFR 2.390

Serial No. 05-815

Enclosure 1

OPERATION LICENSE EXAMS

WRITTEN EXAMINATION FACILITY COMMENTS
KEWAUNEE POWER STATION

DOMINION ENERGY KEWAUNEE, INC.

WITHHOLD FROM PUBLIC DISCLOSURE UNDER 10 CFR 2.390

34. Given the following:

- The plant is at 100% power.
- AFW Pump B is running for a surveillance test in progress.
- Annunciator 47061-M, AFW PUMP B LOW OIL PRESS, alarms.

What is the expected operator response for this condition?

- A. Trip AFW Pump B, and go to N-FW-05B, Auxiliary Feedwater System.
- B. Trip AFW Pump B and go to A-FW-05B, Abnormal Auxiliary Feedwater System Operation.
- C. Verify the Auxiliary Lube Oil Pump is running, and go to N-FW-05B, Auxiliary Feedwater System.
- D. Verify the Auxiliary Lube Oil Pump is running, and go to A-FW-05B, Abnormal Auxiliary Feedwater System Operation.

Answer: D

Recommendations:

Accept both "B" and "D" as correct operator actions.

The premise states, "Annunciator 47061-M, AFW PUMP B LOW OIL PRESS, alarms," but does not provide additional cuing as to the continuing alarm status. However, without providing indication of what the current oil pressure value and trend is, the operator cannot make a valid decision as to the appropriate action between the two selections mentioned above. AFW Pump B Aux Lube Oil Pump starts at the same setpoint as when this alarm actuates (< 10 psig). But if lube oil pressure is continuing to drop, the AFW pump will trip at ≤ 4 psig lube oil pressure. It would be prudent to stop the AFW Pump prior to the lube oil pressure reaching this point if the pressure were continuing to decrease. Without the oil pressure value or trend information, the operator relies on conservative decision making skills and operating judgment as to which action is appropriate. UG-0, User's Guide For Emergency And Abnormal Procedures, section 6.1.2, provides during abnormal conditions, an operator has the authority to take action that is clearly needed based on observed condition. It is recommended that two answers be accepted, "B" and "D", for the given conditions. The bank question will be changed appropriately to solicit only one correct answer.

67. Given the following:

- Waste Gas Decay Tank A is in service.
- The relief valve for that tank, WG-14A, lifts and fails to reseal.

What is the effect on the plant?

- A. The release will be automatically isolated when the Waste Gas Analyzer senses the pressure drop in the Waste Gas Decay Tank.
- B. The release will be automatically isolated when the Waste Gas Decay Tank pressure reducing control valve WG-201 closes.
- C. The release will NOT be automatically isolated, but will be monitored by the Aux. Building Vent radiation monitors R-13 and R-14.
- D. The release will NOT be automatically isolated, but will be detected by the Charging Pump Room Area Monitor R-4.

Answer: C

Recommendations:

A pen and ink correction is required to properly identify the Waste Gas Decay Tank A relief valve. The actual valve nomenclature is WG-13A.

The premise identifies the Waste Gas Decay Tank A Relief Valve as WG-14A. The actual valve identifier is WG-13A. It is believed that this error does not invalidate the question but should be treated as a typographical error. WG-14A is not the relief valve but has the nomenclature, "WG-14A/CV-31209 Waste Gas Tank 1A to Holdup Tanks." During the examination no individual questioned the difference between the valve number and the description provided. If someone thought the valve in question was other than the Waste Gas Decay Tank Relief, this should have been questioned during this time.

Since the valve WG-14A is not a relief valve it does not "lift" but may fail open. This valve does align the Waste Gas Decay Tank to vent header and provides cover gas for the HUT. It is normally open when the waste gas decay tank is providing the cover gas. The only limitations on operation per N-GWP-32B are 1) Normally the gas decay tank with the highest pressure (greater than 8 psig and NOT on holdup for decay) should be selected for cover gas; and 2) when the Boric Acid Evaporator is running, the gas decay tank on fill shall not be selected to provide cover gas to the vent header. Also any gas decay tank less than 110 psig may be selected for fill. WG-15 is a regulating valve that maintains the CVCS HUT cover gas pressure. None of the above conditions are affected by the question. Therefore, it is incorrect to assume that the vent header ruptures, releasing the gas.

**COLLECTED STUDENT
EXAM ITEM FEEDBACK
SUMMARY AND RESPONSE**

32. Given the following:

- The plant startup is in progress.
- Reactor power is 1.4%.
- FW-07A & B, S/G Main Feed valves, AND FW-10A & B, S/G Bypass Feed valves, indicate closed.
- Feedwater Pump A has just been started.
- SG B level begins to slowly rise.

What action is required?

- A. Direct the NAO to locally close FW-9B, Feedwater Main Control Valve 1B Bypass Valve Inlet.
- B. Cycle FW-10B, S/G B Bypass, fully open and closed.
- C. Close FW-12B, S/G B Feedwater Isolation Valve.
- D. Stop Feedwater Pump A.

Answer: C

Student Comment:

Accept 2 answers: (C) Also if level was near the high level trip @ 67% stopping the FW Pump is a viable answer to preclude damage to secondary system and turbine.

Resolution and Comments

There is only one correct answer for the given conditions.

Based on the given conditions, guiding procedures are N-O-02, Plant Startup From Hot Shutdown to 35% power, and N-FW-05A, Feedwater System Normal Operation. Per N-O-02, the initial conditions are SG NR level is maintained between 33% and 50%. The question gives no reason for NOT having this level band established. Furthermore, conditions in the premise state that SG B level begins to slowly rise. Thus there is no basis for assuming SG level is near or approaching the SG Feedwater Isolation setpoint of 67%.

The correct answer for closing the affected SG Isolation MOV is the result of operational experience and is procedurally directed in N-FW-05A. The NOTE and actions of step 4.1.4.j (CAS) are taken immediately after starting a FW Pump. (See attached page.)

No action required.

References:

N-O-02, Rev. AR, Initial Condition 3.7 and step 4.22.

N-FW-05A, Rev. AD, steps 4.1.4.i and 4.1.4.j.

34. Given the following:

- The plant is at 100% power.
- AFW Pump B is running for a surveillance test in progress.
- Annunciator 47061-M, AFW PUMP B LOW OIL PRESS, alarms.

What is the expected operator response for this condition?

- A. Trip AFW Pump B, and go to N-FW-05B, Auxiliary Feedwater System.
- B. Trip AFW Pump B and go to A-FW-05B, Abnormal Auxiliary Feedwater System Operation.
- C. Verify the Auxiliary Lube Oil Pump is running, and go to N-FW-05B, Auxiliary Feedwater System.
- D. Verify the Auxiliary Lube Oil Pump is running, and go to A-FW-05B, Abnormal Auxiliary Feedwater System Operation.

Answer: D

Student Comment:

Per the stem of the question, we are in a surveillance test with Annunciator 47061-M, AFW PUMP B LOW OIL PRESS, ON. With that alarm on steady it raises a question with the Aux Lube Oil System that it is not operating properly. (It auto starts at 10# and cycles off at 15.5#.) With both the shaft-driven lube oil pump and the aux lube oil [pumps] because the alarm is not clearing. The AFW Pump is being run to support the surveillance procedure, not to remove decay heat. Per UG-0 (Rev. F), User's Guide For Emergency And Abnormal Procedures, section 6.1.2, during abnormal conditions, an operator has the authority to take action that is clearly needed based on observed condition. With the annunciator 47061-M not clearing, there is a lube oil problem. Conservative Decision Making, would require we stop the [AFW] pump.

My recommendation is to accept answer "B" as well as "D", per the Key.

Resolution and Comments

The student is incorrect in assuming the alarm is in steady. The premise states, "Annunciator 47061-M, AFW PUMP B LOW OIL PRESS, alarms," but does not provide additional cuing as to the continuing alarm status. However, without providing indication of what the current oil pressure value and trend is, the operator cannot make a valid decision as to the appropriate action between the two selections mentioned above. B AFW Pump aux lube oil pump starts at the same setpoint as when this alarm actuates (< 10 psig). But if lube oil pressure is continuing to drop, the AFW pump will trip at £ 4 psig lube oil pressure. It would be prudent to stop the AFW Pump

prior to the lube oil pressure reaching this point, if the pressure were continuing to decrease.

It is recommended that two answers be accepted - "B" and "D".

The Evaluation Instruments required change and the question requires change to identify the lube oil pressure value and trend, if "D" is to be the only correct answer.

References:

47061-M Alarm Response Sheet, Rev. A.

UG-0 Rev. F, step 6.1.2

A-FW-05B, Rev. AL, Automatic Actions 3.1 and 3.3; and step 9.

44. Which of the following situations requires entry into a Technical Specification LCO Action?

- A. Pressurizer Pressure Transmitter P-429 fails low while at 38% power.
- B. Pressurizer level decreases to less than 17% with a reactor startup in progress.
- C. Pressurizer Backup Heaters energize after a 8% load reduction.
- D. Pressurizer Pressure Transmitter P-449 fails high while on RHR Cooling.

Answer: A

Student Comment:

Accept 2 answers. Answer "D" is also correct. The ACTION if conditions cannot be met is to MAINTAIN HOT SHUTDOWN. The ACTION must still be entered even if it is already satisfied. Action must be maintained to maintain these conditions.

Resolution and Comments

By the definition from Technical Specifications, LIMITING CONDITIONS FOR OPERATION are those restrictions on reactor operation, resulting from equipment performance capability that must be enforced to ensure safe operation of the facility.

PT-449 does serve a safety function in that it provide a reactor trip on low PRZR pressure and one OTDT channel when the plant is operating above the P-7 setpoint (3/4 Power Range Nuclear Instruments channels < 10% AND 2 of 2 Turbine Impulse Pressure Channels < 10% power). The Functional Unit No. 7 (TABLE TS 3.5-2) has a PREMISSIBLE BYPASS CONDITIONS of P-7. Functional Unit No. 5 (OTDT) does not have PREMISSIBLE BYPASS CONDITIONS. BOTH have an action that if MINIMUM OPERABLE CHANNELS (3) or MINIMUM DEGREE OF REDUNDANCY (1) are not met then the operator must maintain HOT SHUTDOWN.

With the plant on RHR Cooling, the reactor must be shutdown and RCS WR Hot Leg temperature is < 400°F and RCS pressure is £ 425 psig. The plant is in INTERMEDIATE SHUTDOWN, and therefore, the LCO for PT-449 does not apply.

Rather than listing the LCO restraint, the out of service item is controlled through its associated Work Order, and this is controlled to ensure completion and return to service before the Technical Specification required time by tying to the Mode Change Checklist. This ensures that LCO conditions are identified and entry prevented by changing plant conditions.

"A" is the only correct answer, for which entry into the LCO conditions for TABLE TS 3.5-2 Functional Unit No. 5 (OTDT trip), TABLE TS 3.5-2 Functional Unit No. 7, TABLE TS 3.5-2 Functional Unit No. 8 (High Przr Pressure trip), and TABLE TS 3.5.3 Functional Unit No. 1.d

(Pressurizer low pressure Safety Injection). The associated bistables for the failed channel must be tripped within 6 hours per A-MI-87.

No action required.

References:

Technical Specifications, TS 3.5 and TABLES as listed.

A-MI-87, Rev. R Introduction 1.1

GNP-08.04.04-1 Rev. G, Form GNP-08.04.04-1

GNP-11.08.01 Rev. U, 6.4.3.1.

62. Given the following:

- Plant is at 90% power.
- Power Range Instrument N-42 fails and is removed from service per A-MI-87, Bistable Tripping for Failed Reactor Protection or Safeguards Inst.
- The surveillance for SP-47-011A, Reactor Coolant Temperature and Pressurizer Pressure Instrument Channel I (Red) Calibration, comes due.
- The decision is to bypass the failed NIS channel inputs to allow the calibration (Technical Specification 3.5.d).

What is the coincidence for the OTDT reactor trip while the surveillance is in progress?

- A. 2 out of 2
- B. 2 out of 3
- C. 1 out of 4
- D. 1 out of 3

Answer: B

Student Comment:

In a normal lineup, the OTDT trip coincidence is 2/4 (4 channels provide input, 2 req'd to actuate). With N-42 input to Chan II OTDT trip bypassed, only 3 channels provide input; 2 are still req'd to actuate, therefore coincidence = 2/3. During SP-47-011A, after initial switch lineups and verifications, the bistables associated with the RED Channel Pressure / Temperature trips are placed in TEST. After that step (3 channels still provide input; 1 more –BLUE or YELLOW – is req'd to actuate the trip), therefore the coincidence becomes 1/3. The correct answer depends on which actions of SP-47-011A have been completed. This information is not provided, only that "... the surveillance is in progress." As written, "B" and "D" are correct. I recommend accepting both.

Resolution and Comments

The coincidence does depend on the step one is performing in the procedure. At Step 6.3.17 the associate bistables are placed in TEST (tripped). The bistables are restored to NORMAL at step 6.10.15 near the end of the surveillance. During the period between these steps the coincidence is 1/2 for tripping the reactor. Since the one channel is already tripped, it takes the input from one of the remaining two channels to trip the reactor. The overall coincidence for the trip is still 2/3 (with the fourth channel bypassed), but the situation is the one channel of trip input is already

made up. "1 out of 2" is not a listed selection.

An individual later requested *clarification of the status of performing the surveillance*. It was answered that the surveillance had not yet been entered. This information was provided to all students in the room at that time. The individual providing this feedback was not in the room, as he had completed his examination earlier.

No change required

References:

SP-47-011A Rev. M, steps 6.3.17 and 6.10.15 (pages 16 and 99)

KNPP Technical Specification Table TS 3.5-2, No. 5, Amend No. 137

63. Given the following:

- Power level is 99.9% (1771.5 MWt).
- The current UFMD and RTO OPERATING LIMITs are 1772 MWt.
- SP-87-125, Shift Instrument Channel Checks - Operating, calorimetric was completed 6 hours ago.
- The signal is lost to PPCS from Feedwater Flow channel FT-476.
- The RTO 1-minute average, PPCS point R5110G, drops to 1200 MWt.
- The Computer Group reports the signal will be restored within 10 minutes.

What is the affect on the UFMD and RTO Operating Limits, and what action is taken when the flow channel input is restored and R5110G reads normal?

A. Both the UFMD and RTO Operating limits will read 1749 MWt.

When the signal is restored, the operator will click the APPLY UFMD LIMIT button on the PPCS UFMD Correction Factors screen to return both limits to 1772 MWt.

B. The UFMD Operating Limit will read 1749 MWt and RTO Operating Limit will read 1772 MWt.

Power will be reduced to less than 1749 MWt, and when the signal is restored, the operator will click the APPLY UFMD LIMIT button on the PPCS UFMD Correction Factors screen to return the UFMD limit to 1772 MWt.

C. Both the UFMD and RTO Operating limits will read 1769 MWt.

When the signal is restored, the operator will click the APPLY UFMD LIMIT button on the PPCS UFMD Correction Factors screen to return both limits to 1772 MWt.

D. The UFMD Operating Limit will read 1769 MWt and RTO Operating Limit will read 1772 MWt.

Power will be reduced to less than 1769 MWt, and when the signal is restored, the operator will click the APPLY UFMD LIMIT button on the PPCS UFMD Correction Factors screen to return the UFMD limit to 1772 MWt.

Answer: A

Student Comment:

No Correct Answer. When the flow channel is returned, the UFMD will go to 1772 with only 10 minutes of data lost. When clicking the "APPLY UFMD LIMIT" button, this only changes the RTO Limit, not "both" the RTO and the UFMD Limit. This is supported by N-O-03 step 4.1.14.c. The action of clicking the button does not affect both limits.

Resolution and Comments

The information about reset of the RTO and UFMD Limits is true. When the feed flow is restored above 70% reactor power equivalent the UFMD Operating Limit will automatically reset to 1772. To restore the RTO Operating Limit the operator must depress the APPLY UFMD LIMIT button. Then the RTO Limit will be reset to 1772. Selection "A" describes this condition. To have both the UFMD Operating Limit AND the RTO Operating Limit read 1772, the operator must click the APPLY UFMD LIMIT button.

There was no clarification requested for this question during the examination.

No change required.

References:

N-O-03 Rev. AW, step 4.1.14.c

67. Given the following:

- Waste Gas Decay Tank A is in service.
- The relief valve for that tank, WG-14A, lifts and fails to reseal.

What is the effect on the plant?

- A. The release will be automatically isolated when the Waste Gas Analyzer senses the pressure drop in the Waste Gas Decay Tank.
- B. The release will be automatically isolated when the Waste Gas Decay Tank pressure reducing control valve WG-201 closes.
- C. The release will NOT be automatically isolated, but will be monitored by the Aux. Building Vent radiation monitors R-13 and R-14.
- D. The release will NOT be automatically isolated, but will be detected by the Charging Pump Room Area Monitor R-4.

Answer: C

Student Comment:

In the stem of the question it lists WG-14A as the relief valve for WGDT A. It is not. The stem of the question is wrong. If WG-14A were to lift at full tank pressure it could rupture the vent header and R-4 could be a possible answer. Recommendations: Accept both answers "C" and "D" and revise question.

Resolution and Comments

While the question does use the incorrect valve identifier number, WG-14 A versus WG-13A, it does identify the valve as the "relief valve for that tank." WG-14A is not the relief valve but has the nomenclature, "WG-14A/CV-31209 Waste Gas tank 1A to Holdup Tanks." During the examination no individual questioned the difference between the valve number and the description provided. If someone thought the valve in question was other than the Waste Gas Decay Tank Relief, this should have been questioned during this time. The valve number error is a typographical error and does not affect the quality of the question.

Since the valve WG-14A is not a relief valve it does not "lift" but may fail open. This valve does align the Waste Gas Decay Tank to vent header and provides cover gas for the HUT. It is normally open when the waste gas decay tank is providing the cover gas. The only limitations on operation per N-GWP-32B are 1) Normally the gas decay tank with the highest pressure (greater than 8 psig and NOT on holdup for decay) should be selected for cover gas; and 2) when the Boric Acid Evaporator is running, the gas decay tank on fill shall not be selected to provide cover

gas to the vent header. Also any gas decay tank less than 110 psig may be selected for fill. WG-15 is a regulating valve that maintains the CVCS HUT cover gas pressure.

No of the conditions above are affected by the question so it unsupported in assuming the vent header ruptures releasing the gas.

While the charging Pump room, the location of R-4 monitor, is on the same elevation and in the near vicinity of the Waste Gas Decay Tank cubicles, each is provided with separate ducting to the plant exhaust vent. With flow rates in the ventilation system of 300 CFM for the WGDT vault and 850 CFM for the Charging Pump room. It is unlikely a leak would be detected by R-4. However this same leak would be detected by R-13 and R-14.

The Evaluation does not require change. A Question Change is required to correct the valve identifier number.

References:

N-GWP-32B, Rev. AD, section 2.0 and step 4.2.1.

OPERM-604, Rev. BE (blown-up)

OPERM-601, Rev. CP (blown-up)

81. Given the following:

- The plant is at 100% power.
- Surveillance Test SP-42-312B, Diesel Generator B Availability Test, is in progress with DG B running.
- Component Cooling Pump B trips on overcurrent.
- BRB-104, ckt 10 supplying DG B tripped open and CANNOT be closed.

What is the effect of this condition?

A. DG B is inoperable and must have its fuel supply locally isolated.

A plant shutdown must commence within one hour using the Standard Shutdown Sequence (Technical Specification 3.0.c).

B. DG B is Degraded but Operable and can be controlled locally.

A 24-hour LCO is applicable for restoration of the DC Distribution System and a 72-hour LCO is applicable for restoration of Component Cooling Pump B.

C. DG B is inoperable and must have its fuel supply locally isolated.

A 72-hour LCO is applicable for restoration of Component Cooling Pump B and a 7-day LCO is applicable for restoration of DG B.

D. DG B is Degraded but Operable and can be controlled locally.

Only the 72-hour LCO is applicable for restoration of Component Cooling Pump B.

Answer: C

Student Comment:

This question has two answers dependent on the time frame. Answer "C" is correct initially at the failure. The 2nd answer is "A." "A" is correct as well due to the following. With B DG OOS, A DG must be tested every 24 hours to verify operability. In order to test A DG, all B train ESF equipment is required to be OPERABLE (as indicated in SP-42-312A). Since B CC Pump is OOS, this condition is not satisfied and therefore 1 hour to commence a shutdown applies.

Resolution and Comments

The conditions given do not warrant this extrapolation of conditions. Applied to the current conditions, the Technical Specifications that apply are for DG B and CC Pump B. TS 3.3.d.2 list

a 72-hour LCO for the CC Pump and TS 3.7.b.2 & 3.7.c identify a 7-day LCO for restoring the DG. This is the condition that applies at the time given. (It does not indicate when the CC Pump or the DG is actually returned to service.)

If the time period came when DG A was required to be run per SP-42-312A, then the TS requirement for Train B equipment would need to be addressed. If this were the condition, then *this information* would have been included in the question premise.

No action required.

References:

Technical Specification 3.3.d.2, Amend No.116, page TS 3.3-6

Technical Specification 3.7.b.2 & 3.7.c, Amend No. 122, page TS 3.7-2

88. What is the reason for the Feedwater Isolation signal generated from High-High SG level?

- A. Preclude excessive SG tilts due to cooler feedwater supplied to ONE SG.
- B. Prevent overflow of the SG that may result in damage to secondary components.
- C. Ensure containment pressure remains within maximum internal pressure limit with the affected SG faulted inside containment.
- D. Protect the Feedwater Pumps from operating in runout condition with FW-7A/B, S/G A/B Main Valve, fully open.

Answer: B

Student Comment:

Accept 2 answers: "C" & "B"

Per USAR Section 14, pages 14.2. 21-25, one of the 4 major factors that influence release of mass and energy is S/G water level (fluid inventory). The analysis was based on 44% NRL \pm uncertainties. Having too much inventory is a reason to challenge containment integrity.

Resolution and Comments

The concern above is true, and that is why SG level is maintained in the normal band during operations. However this does not address the specific reason for having the Feedwater Isolation signal on SG high level. The isolation occurs to prevent SG overflow. SG Overflow may result in damage to secondary components, including erosion of turbine blades due to high moisture steam.

No action required.

References:

KNPP Technical Specification Basis Main FW Isolation, page TS B3.5-2

90. Given the following:

- The plant has experienced a fire in the Control Room.
- The actions of E-O-06, Fire In Alternate Fire Zone, are being performed.

What are the indications of an air dryer filter failure, and what are the procedural actions performed by the Control Room Supervisor to mitigate the consequences of this failure.

A. Instrument Air Drier/Filter 1A/1B differential pressure will rise above 5 psid.

The CRS will verify SA-121, Air Drier/Filter Bypass CV, opens.

B. Instrument Air Drier/Filter 1C differential pressure will rise above 10 psid.

The CRS will open SA-100A, Air Drier 1A Supply, and IA-300, 1 1/2" Alt IA, and then request the Control Operator A to start Air Compressor B.

C. Instrument air header pressure will drop below 95 psig.

The CRS will depress the Air Drier 1C RESET pushbutton to confirm problem, and then align flow through Instrument Air Drier 1B.

D. Instrument air header pressure will drop below 100 psig.

The CRS will open SA-70 and SA-71, 1 1/2" Dedicated Instrument Air Header Isolations, that bypass the Instrument Air Driers.

Answer: D

Student Comment:

A failure of IA Dryer is more likely to result in a high D/P across IA-121 well before IA pressure begins to degrade. The opening of IA-121 is an Immediate Automatic action that should be verified by the local operator, in this case, the CRS Opening SA-70 and [SA-] 71 is directed by E-O-06, but not in response to this failure. This is the path that is provided to supply the Dedicated IA header from Air Compressor C. However, since this line does effectively bypass the Instrument Air Dryers, both answers "A" and "D" are correct responses. I recommend accepting both for credit and revising the question.

Resolution and Comments

Indeed SA-121 will open in response to a high differential pressure across the Air Dryer/Filter, and the actions under normal conditions would be to verify this valve is open (as directed by the annunciator alarm condition). However in this situation the control room is evacuated and E-O-06 is in progress. As the question asks, what are the actions that mitigate this condition? The

answer is the Air Dryers are bypassed by opening the Dedicated Air Header isolations, which supply the air directly through a separate in-pipe air dryer.

“A” is not a correct answer because the CRS does not verify this path, and actually isolates this path when performing step 19. By closing SA-100B and SA-2C, the air supply from Compressor C (which is the one to be verified working) is isolated to the Instrument Air Dryers A and B, and thus SA-121 opening has NO effect.

No action required.

References:

E-O-06, Rev. Z, step 19.a.

OPERM-213-1, Rev. CD

WITHHOLD FROM PUBLIC DISCLOSURE UNDER 10 CFR 2.390

Serial No. 05-815

Enclosure 2

OPERATION LICENSE EXAMS

ALARM RESPONSE SHEET
ANNUNCIATOR 47061-M, AFW PUMP B LOW OIL PRESS

DOMINION ENERGY KEWAUNEE, INC.

WITHHOLD FROM PUBLIC DISCLOSURE UNDER 10 CFR 2.390

FW-05B

ANNUNCIATOR NUMBER:

47061-M

SER PT:
185

COMPUTER PT:
None

INSTRUMENT:
B AFW Pump Breaker 1-604
PS-16018

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1																							
2																							
3																							
4																							
5																							

BETA WINDOWBOX 06

AFW PUMP
B
LOW OIL PRESS

SETPOINT:
< 10 psig AND B AFW Pump
Bkr CLOSED

RECOMMENDED ACTION:

1. GO TO A-FW-05B.

COMMENTS:

1. B AFW Pump auxiliary lube oil pump auto starts at lube oil pressure < 10 psig.
2. IF lube oil pressure decreases to ≤ 4 psig, Auxiliary Feedwater Pump B will trip.

REFERENCES:

FLOW: M-205
LOGIC: E-1602

OTHER: E-1407

NUCLEAR
SAFETY
RELATED

YES
NO

PORC
REVIEW
REQUIRED

YES
NO

SRO APPROVAL OF
TEMPORARY CHANGES
REQUIRED

YES
NO

REVIEWED BY CC Mielke

DATE 5/17/94

REV DATE

APPROVED BY D. Braun

DATE 5/17/94

5/17/94
REV A

WITHHOLD FROM PUBLIC DISCLOSURE UNDER 10 CFR 2.390

Serial No. 05-815

Enclosure 3

OPERATION LICENSE EXAMS

UG-0 USER'S GUIDE FOR EMERGENCY AND ABNORMAL PROCEDURES
SECTION 6.1

DOMINION ENERGY KEWAUNEE, INC.

WITHHOLD FROM PUBLIC DISCLOSURE UNDER 10 CFR 2.390

WISCONSIN PUBLIC SERVICE CORPORATION

NO. UG-0

KEWAUNEE NUCLEAR POWER PLANT

TITLE User's Guide For Emergency And
Abnormal Procedures

OPERATING PROCEDURE

DATE JUN 25 2005

PAGE 6 **of** 32

6.0 Procedure

6.1 General Operating Guidelines For Abnormal Conditions

1. When the need for a turbine trip, reactor trip, or safety injection is imminent or unavoidable, the operator should initiate these signals manually whenever possible.
 - a. If a manual turbine trip, reactor trip or safety injection is deemed necessary, the crew member recommending or ordering the action should state the reason for the action. This will allow the remaining crew members to independently evaluate the current plant conditions and validate or refute, as necessary, the need for the manual action.
 - b. If plant conditions warrant, the SM or CRS may choose to allow automatic actuation of these protective features.
2. During abnormal and emergency conditions, an operator has the authority to take action that is clearly needed based on observed plant conditions before being directed by procedures, provided such action is not contrary to the procedure currently in effect and does not hamper the completion of the procedure steps.
3. Automatic controls not performing their intended function should be manually controlled.
4. Components which require manual control shall be reported to the procedure reader when the applicable step is read.
5. All failures of plant components shall be reported to the CRS and/or SM.
6. Annunciators shall be promptly noted, acknowledged, and verified against plant conditions per FP-OP-COO-01, CONDUCT OF OPERATIONS.
7. Concerns or objections to the stated or intended course of action along with the basis for these concerns or objections shall be made known as soon as possible.
 - a. If time permits, the stated concerns or objections shall be discussed with and resolved by the SM and/or CRS.

WITHHOLD FROM PUBLIC DISCLOSURE UNDER 10 CFR 2.390

Serial No. 05-815

ENCLOSURE 4

OPERATION LICENSE EXAMS

OPERATING PROCEDURE N-GWP-32B
GASEOUS WASTE PROCESSING AND DISCHARGE SYSTEM

DOMINION ENERGY KEWAUNEE, INC.

WITHHOLD FROM PUBLIC DISCLOSURE UNDER 10 CFR 2.390

WISCONSIN PUBLIC SERVICE CORPORATION

NO. N-GWP-32B

KEWAUNEE NUCLEAR POWER PLANT

TITLE Gaseous Waste Processing and Discharge System

OPERATING PROCEDURE

DATE AUG 23 2005

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2.0 PRECAUTIONS AND LIMITATIONS

- 2.1 If tank discharge is stopped prior to completion, verify Gas Decay Tank Discharge Permit has NOT expired prior to restart of discharge.
- 2.2 More than one gaseous radiological discharge shall NOT be performed at a time.
- 2.3 If oxygen concentration is greater than 4%, immediate corrective action is required. Contact Chemistry and Radiation Protection to develop an action plan.
- 2.4 If oxygen concentration is greater than 2%, corrective action should be taken as resources allow. [PCR012890]
- 2.5 Equipment which has been opened to atmosphere shall have oxygen concentration verified less than or equal to 4% by volume prior to aligning the equipment to the vent header.
- 2.6 If a Waste Gas Decay Tank is to be used to collect oxygen, such as from Reactor Coolant fill and vent, hydrogen concentration should be less than or equal to 2%.
- 2.7 Verify moisture separator water level greater than or equal to 30% before manually starting a waste gas compressor.
- 2.8 When the Boric Acid Evaporator is running, the Waste Gas Decay Tank on fill shall NOT be selected to provide cover gas to the vent header. [ACE000003]

CONTINUOUS USE

3.0 INITIAL CONDITIONS

3.1 N-GWP-32B-CL complete.

3.2 Nitrogen is aligned for backup cover gas per N-GS-51-CL.

4.0 PROCEDURE

4.1 Startup

NOTE: Any Gas Decay Tank less than 110 psig may be selected for fill.

NOTE: Normally, Gas Decay Tank with highest pressure (greater than 8 psig NOT on holdup for decay), should be selected for cover gas.

NOTE: Gas Decay Tank with lowest pressure is normally selected for standby.

1. SELECT Gas Decay Tank to be used for cover gas.
 - a. OPEN WG-14A(B,C,D), Gas Decay Tank to Holdup Tank, for selected tank.

CAUTION

When the Boric Acid Evaporator is running, the Waste Gas Decay Tank on fill shall NOT be selected to provide cover gas to the vent header.
[ACE000003]

2. SELECT Gas Decay Tank to be placed on Fill.
 - a. POSITION WG-200A(B,C,D), Gas Decay Tank to Gas Analyzer, for selected tank to MAN OVRD.
 - b. VERIFY WG-10A(B,C,D) OPEN, for tank to receive waste gas.
3. SELECT Gas Decay Tank to be placed on Standby.
 - a. POSITION Standby Selector Switch to A(B,C,D) for selected tank.

CONTINUED

4.1

CONTINUED

4. VERIFY vent header pressure on PI-1025/53102, greater than 0.5 psi.
5. POSITION Waste Gas Compressor A and B control switches to AUTO.

4.2 Steady State

NOTE: Normally gas decay tank with highest pressure (greater than 8 psig, and NOT on holdup for decay) should be selected for cover gas.

1. SHIFT gas decay tank on cover as follows:
 - a. VERIFY pressure in Gas Decay Tank to be placed on cover greater than 8 psig.
 1. IF Gas Decay Tank is less than 8 psig, THEN ADD nitrogen per Step 4.2.4.
 - b. CLOSE WG-14A(B)(C)(D), Gas Decay Tank to Holdup Tank, to remove from cover.
 - c. OPEN WG-14A(B)(C)(D), Gas Decay Tank to Holdup Tank, to be placed on cover.

CAUTION

When Boric Acid Evaporator is running, the gas decay tank on fill shall not be selected to provide cover gas to the vent header.

NOTE: Any gas decay tank less than 110 psig may be selected for fill.

2. SHIFT gas decay tank on fill as follows:
 - a. POSITION WG-200A(B,C,D), Gas Decay Tank to Gas Analyzer, for selected tank to MAN OVRD.

CONTINUED

4.2.2

CONTINUED

- b. VERIFY WG-10A(B)(C)(D), Waste Gas to Gas Decay Tank, OPEN for Gas Decay Tank on fill.
- c. VERIFY WG-10A(B)(C)(D), Waste Gas to Gas Decay Tank, CLOSED for Gas decay tank being removed from fill.

NOTE: If possible, Gas decay tank selected for standby should NOT be on cover or fill.

NOTE: When tank selected for fill reaches 110 psig, GAS DECAY TANK SWITCHING (53702-15), alarms.

3. SELECT gas decay tank for standby as follows:

- a. POSITION Standby Selector Switch to A(B)(C)(D) for Gas Decay Tank selected for standby.

4. ADD Nitrogen to a Gas Decay Tank as follows:

- a. OPEN NG-722A(B)(C)(D), Nitrogen to Gas Decay Tank A(B,C,D), for required gas decay tank.

NOTE: When adding nitrogen to a gas decay tank, NITROGEN SUPPLY LOW PRESSURE (53702-43), at Waste Disposal Panel is expected.

- b. Slowly OPEN NG-721, Nitrogen Supply to Gas Decay Tanks.
- c. WHEN gas decay tank pressure is 10-15 psig, THEN CLOSE NG-721.
- d. CLOSE NG-722A(B)(C)(D).

5. PUMP DOWN Vent Header as follows:

- a. WHEN Vent Header pressure on PI-1025/53102 is greater than 1.9 psig, or PI-155/53109 greater than 2.0 psig, THEN PERFORM the following:
 1. VERIFY moisture separator water level greater than or equal to 30%.

CONTINUED

WISCONSIN PUBLIC SERVICE CORPORATION

NO. N-GWP-32B

KEWAUNEE NUCLEAR POWER PLANT

TITLE Gaseous Waste Processing and Discharge System

OPERATING PROCEDURE

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4.2.5.a
CONTINUED

2. POSITION Waste Gas Compressor A(B) control switch to START.

NOTE: Opening WG-32A(B) too far will cause loss of moisture separator level and may damage compressor.

3. THROTTLE WG-32A(B), Waste Gas Moisture Separator Drain, for 5 minutes with compressor operating.

4. WHEN CVC Holdup Tank gas manifold pressure on PI-155/53109 decreases to less than or equal to 1.8 psig, THEN PERFORM the following:

A. STOP Waste Gas Compressor A(B).

B. POSITION Waste Gas Compressor A(B) control switch to AUTO.

6. For Continuous Waste Gas Compressor Operation, PERFORM the following:

a. VERIFY Vent Header pressure on PI-1025/53102 is greater than 1.0 psig.

b. VERIFY moisture separator water level greater than or equal to 30%.

c. POSITION Waste Gas Compressor A(B) control switch to START.

NOTE: Opening WG-32A(B) too far will cause loss of moisture separator level and may damage compressor.

d. THROTTLE WG-32A(B), Waste Gas Moisture Separator Drain, for 5 minutes with compressor operating.

e. WHEN continuous operation of waste gas compressor is NO longer required, THEN PERFORM the following:

1. STOP Waste Gas Compressor A(B).

CONTINUED

CONTINUOUS USE

4.2.6.e
CONTINUED

2. POSITION Waste Gas Compressor A(B) control switch to AUTO.

NOTE: During Refueling periods, it is necessary to purge reactor coolant of hydrogen. Radioactive gases will also be included in the purge. The Gas Decay Tank may be isolated to allow short lived isotopes to decay. A sample will determine if tank contents will be used for "Cover Gas", or released to the environment through the plant vent.

7. ISOLATE Gas Decay Tank for Sampling/Decay Holdup as follows:

- a. VERIFY gas decay tank NOT selected for Standby.
- b. VERIFY WG-10A(B,C,D), Waste Gas to Gas Decay Tank, CLOSED for tank to be isolated.
- c. VERIFY WG-14A(B,C,D), Gas Decay Tank to Holdup Tank, CLOSED for tank to be isolated.
- d. CLOSE WG-12A(B,C,D), Gas Decay Tank Discharge, for tank to be isolated.
- e. TAG WG-12A(B,C,D) for Status Control stating reason tank is isolated.
- f. RECORD Waste Gas Decay Tank isolated for sampling and/or decay holdup on Auxiliary Operator Log.
- g. IF sampling is required, THEN REQUEST Radiation Protection sample gas decay tank.

8. DISCHARGE Gas Decay Tank as follows:

- a. ISOLATE gas decay tank for sampling and/or decay holdup per Step 4.2.7.
- b. REQUEST Radiation Protection sample tank to determine if release to atmosphere will be within ODCM limits.

CONTINUED

4.2.8

CONTINUED

- c. IF activity is greater than or equal to ODCM limits, THEN PERFORM one of following:

1. REALIGN gas decay tank for cover.

OR

2. MAINTAIN gas decay tank isolated for decay holdup.

- d. IF activity is less than ODCM limits, THEN DISCHARGE Gas Decay Tank: (See Section 2.0, Step 2.1 and 2.0, Step 2.2)

NOTE: It is preferable NOT to discharge a gas decay tank when the wind is out of the North or Northwest. Gases exiting Aux Bldg Vent Stack may re-enter building through Aux Bldg Supply or Turbine Bldg Supply Vent intakes.

1. OBTAIN Gas Decay Tank Discharge Permit and approval from the Shift Manager.
2. CONTACT I&C to determine if performance of ICP 32B.08, Waste Gas Decay Tanks Plant Ventilation Isolation Loop Calibration, is required.

NOTE: If possible, both Auxiliary Building Exhaust Fans should be running to provide maximum dilution flow.

3. VERIFY the following:

- A. IF total gas activity of tank to be released is greater than $1.0 \text{ E-2 } \mu\text{Ci/cc}$, THEN VERIFY both Auxiliary Building Exhaust Fans RUNNING. [PCR012650]
- B. IF total gas activity of tank to be released is less than or equal to $1.0 \text{ E-2 } \mu\text{Ci/cc}$, THEN VERIFY at least one Auxiliary Building Exhaust Fan, RUNNING. [PCR012650]

CONTINUED

4.2.8.d
CONTINUED

4. IF a tagout was hung in Step 4.2.7.e for isolating the Gas Decay Tank for sampling and/or decay holdup, THEN CLEAR tag(s) AND OPEN WG-12A(B,C,D), Gas Decay Tank Discharge.
5. RECORD Prior To Discharge data on Gas Decay Tank Discharge Permit.
6. NOTIFY Control Room to PERFORM the following:
 - A. VERIFY R-13 or R-14, Aux Bldg Vent Exhaust is being trended.
 - B. Source and Channel check on R-13 and R-14.
 1. INSERT message "Source Check" on recorder 45716 per N-MI-87C.
 2. IF R-13 or R-14 Source/Channel check fails, THEN INFORM Shift Manager. (See Precaution 2.0, Step 2.1)
7. OPEN WG-34A(B,C,D), Gas Decay Tank to Plant Vent.

CONTINUED

4.2.8.d
CONTINUEDCAUTION

The trip setpoints for R-13 and R-14 are 80,000 cpm. If WG-36 closes on high radiation, discharge shall be re-evaluated prior to restart.

NOTE: WG-36 is reset after a trip by positioning control knob to close.

NOTE: Initiation of a Gas Decay Tank discharge should be done slowly to ensure R-13 and R-14 setpoints are NOT exceeded.

8. At Waste Disposal Panel, slowly OPEN WG-36/CV-31215, Gas Decay Tanks to Plant Vent, while monitoring local indicators for R-13 and R-14 until ONE of the following occurs:

- R-13 or R-14 is indicating 10,000 cpm
- WG-36/CV-31215 is open to the limit specified on Gas Decay Tank Discharge Permit
- WG-36/CV-31215 is 100% OPEN

9. INSERT message "Start GW Disch" on recorder 45716 per N-MI-87C.

10. RECORD tank being discharged and start time in Control Room Log.

11. MONITOR R-13 or R-14 trend during discharge.

12. DRAIN water from Gas Decay Tank being discharged, per Step 4.2.9.

CONTINUED

4.2.8.d
CONTINUED

CAUTION

If oxygen concentration is greater than 4%, immediate corrective action is required. Oxygen concentration of less than or equal to 2% is recommended. [PCR012890]

13. IF opening a Gas Decay Tank to atmosphere for maintenance OR it is desired to reduce oxygen concentration, THEN PURGE as follows:

- A. INFORM Equipment Operator Nitrogen will be used for purging a Gas Decay Tank.
- B. WHEN Gas Decay Tank pressure less than 25 psig, THEN PERFORM the following:
 - 1. OPEN NG-722A(B,C,D), Nitrogen to Gas Decay Tank A(B,C,D), for Gas Decay Tank to be purged.

NOTE: When adding nitrogen to a Gas Decay Tank, NITROGEN SUPPLY LOW PRESSURE (53702-43), at Waste Disposal Panel is expected.

- 2. Slowly OPEN NG-721, Nitrogen Manifold to Gas Decay Tanks, to establish continuous flow of N₂.
- 3. WHEN 20-30 minutes have elapsed, THEN PERFORM the following:
 - 3.1 CLOSE NG-721.
 - 3.2 CLOSE NG-722A(B,C,D).

14. WHEN Gas Decay Tank pressure decreases to 5 psig, THEN STOP discharge as follows:

- A. CLOSE WG-36.

CONTINUED

4.2.8.d.14
CONTINUED

- B. CLOSE WG-34A(B,C,D).
- C. CLOSE WG-12A(B,C,D).
- D. IF purge was performed, THEN VERIFY O₂ or H₂ concentration is less than or equal to 2% by performing the following:
 - 1. OBTAIN O₂ and H₂ sample of WGDT as follows:
 - 1.1 ALIGN WGDT (A,B,C,D) to WGA per N-GWP-32B-2.

OR
 - 1.2 REQUEST Chemistry sample purged gas decay tank.
 - 2. IF O₂ or H₂ concentration is less than or equal to 2%, THEN PERFORM the following: [PCRO12890]
 - 2.1 IF gas decay tank will be opened for maintenance, THEN GO TO Step 4.2.8.d.14.E.
 - 2.2 OPEN WG-12A(B,C,D).
 - 2.3 RECORD stop time and INFORM Control Room of stop time.
 - 2.4 INSERT message "Stop GW Disch" on recorder 45716 per N-MI-87C.
 - 2.5 COMPLETE Gas Decay Tank Discharge Permit.
 - 3. IF O₂ or H₂ concentration is still greater than 2%, THEN PERFORM the following:
 - 3.1 OPEN NG-722A(B,C,D).

CONTINUED

4.2.8.d.14.D.3

CONTINUED

NOTE: WHEN adding nitrogen to a Gas Decay Tank, Nitrogen Supply Low Pressure (53702-43), at Waste Disposal Panel is expected.

3.2 Slowly OPEN NG-721, Nitrogen Supply to Gas Decay Tanks.

3.3 WHEN Gas Decay Tank pressure 10-15 psig, THEN CLOSE NG-721.

3.4 CLOSE NG-722A(B,C,D).

3.5 OPEN WG-12A(B,C,D).

3.6 OPEN WG-34A(B,C,D).

3.7 At Waste Disposal Panel, slowly OPEN WG-36 until R-13 or R-14 indicates 10,000 cpm, OR WG-36 is open to limit specified on Gas Decay Tank Discharge Permit.

3.8 GO TO Step 4.2.8.d.14.

E. IF Gas Decay Tank will be opened for maintenance, THEN PERFORM the following:

1. VERIFY H₂ concentration less than or equal to 2%. [PCRO12890]
2. OPEN WG-12A(B,C,D).
3. OPEN WG-34A(B,C,D).
4. At Waste Disposal Panel, slowly OPEN WG-36 until R-13 or R-14 indicates 10,000 cpm, OR WG-36 is open to limit specified on Gas Decay Tank Discharge Permit.
5. WHEN Gas Decay Tank pressure is approximately 0 psig, CLOSE WG-36.

CONTINUED

4.2.8.d.14.E
CONTINUED

6. CLOSE WG-34A(B,C,D).
 7. CLOSE WG-12A(B,C,D).
 8. IF status control is needed, THEN TAG tank until ready to perform maintenance.
 9. GO TO Step 4.2.8.d.14.G.
 - F. OPEN WG-12A(B,C,D).
 - G. RECORD stop time and INFORM Control Room of stop time.
 - H. INSERT message "Stop GW Disch" on recorder 45716 per N-MI-87C.
 - I. COMPLETE Gas Decay Tank Discharge Permit.
9. Drain water from Gas Decay Tank as follows:
- NOTE: Draining water from a Gas Decay Tank may cause an increase in DDT level and vent header pressure.
- a. OPEN MD(R)-401, Gas Decay Tank Drain Header Isolation.
 - b. OPEN MD(R)-400A(B,C,D) Gas Decay Tank Drain, to drain header.
 - c. WHEN gas flow is heard through drain piping, THEN PERFORM the following:
 1. CLOSE MD(R)-400A(B,C,D).
 2. CLOSE MD(R)-401.
10. To transfer Waste Gas between Gas Decay Tanks, PERFORM the following:
- a. SELECT Gas Decay Tank A(B,C,D) to receive waste gas:
 1. POSITION WG-200A(B,C,D) to MAN OVRD, for tank to receive waste gas.

CONTINUED

4.2.10.a
CONTINUED

2. VERIFY WG-10A(B,C,D) OPEN, for tank to receive waste gas.

b. CLOSE WG-16, Gas Decay Valve Gallery to Holdup Tanks.

c. VERIFY WG-14A(B,C,D) CLOSED, for all Gas Decay Tanks.

d. VERIFY WG-12A(B,C,D), Gas Decay Tank Inlet, OPEN for tank to be transferred.

e. OPEN WG-14A(B,C,D), Cover Gas Supply to Holdup Tanks, for tank to be transferred.

f. OPEN WG-40, Gas Decay Valve Gallery to Vent Header No. 2.

NOTE: If I&C is NOT available, the following step may still be performed. If WG-15 setpoint is changed, I&C should be informed as soon as practical.

g. IF I&C is available, THEN CONTACT I&C to perform the following:

NOTE: Numbers on setpoint dial do NOT coincide with actual pressure in system.

1. RECORD WG-15/CV-31213, Gas Decay Tanks to Holdup Tanks, setpoint.

2. RAISE WG-15 setpoint until valve full OPEN.

3. WHEN Gas Decay Tank being transferred reaches 5 psig on PI-1036 (1037, 1038, 1039), THEN RETURN setpoint on WG-15 to previous setting.

h. CLOSE WG-40.

i. CLOSE WG-14A(B,C,D), for tank transferred.

j. OPEN WG-16.

k. VERIFY Gas Decay System is aligned for normal operation.

WISCONSIN PUBLIC SERVICE CORPORATION

NO. N-GWP-32B

KEWAUNEE NUCLEAR POWER PLANT

TITLE Gaseous Waste Processing and Discharge System

OPERATING PROCEDURE

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4.3 Shutdown

1. WHEN CVC Holdup Tank gas manifold pressure on PI-155/53109 decreases to less than or equal to 1.8 psig, THEN STOP Waste Gas Compressor A(B).

CONTINUOUS USE

WITHHOLD FROM PUBLIC DISCLOSURE UNDER 10 CFR 2.390

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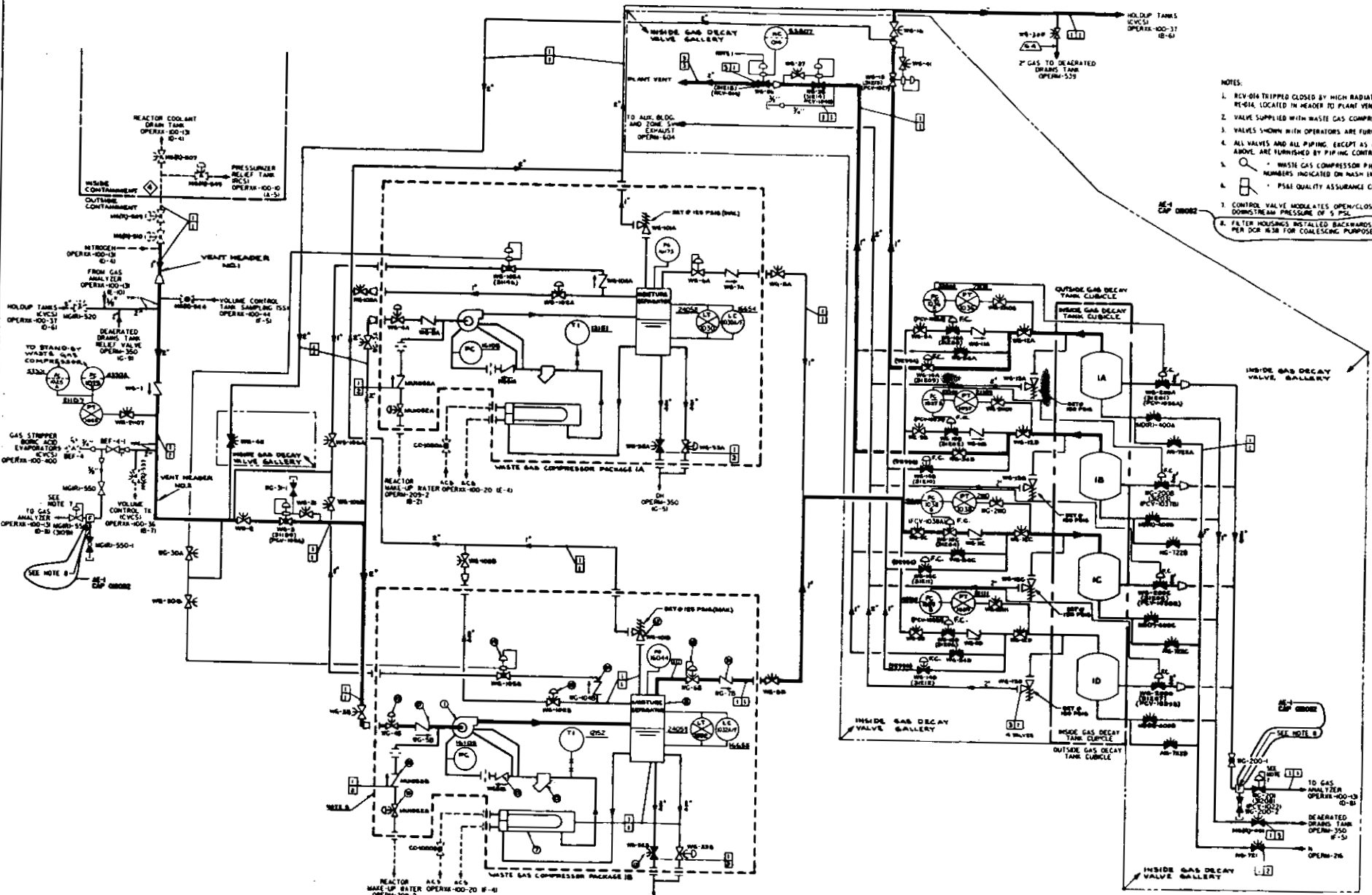
Enclosure 5

OPERATION LICENSE EXAMS

DRAWING OPERXK-100-132, FLOW DIAGRAM
WASTE DISPOSAL SYSTEM

DOMINION ENERGY KEWAUNEE, INC.

WITHHOLD FROM PUBLIC DISCLOSURE UNDER 10 CFR 2.390



- NOTES:
1. RCV-004 TRIPPED CLOSED BY HIGH RADIATION LEVEL AT REM-014, LOCATED IN HEADER TO PLANT VENT.
 2. VALVE SUPPLIED WITH WASTE GAS COMPRESSOR.
 3. ALL VALVES AND ALL PIPING, EXCEPT AS INDICATED IN NOTES 2 & 3 ABOVE, ARE FURNISHED BY PIPING CONTRACTOR.
 4. WASTE GAS COMPRESSOR PRICE NUMBERS INDICATED ON WASH. INC. CO. Dwg. NO. 13-0022(3-64)
 5. PS&I QUALITY ASSURANCE CODES.
 6. CONTROL VALVE MODERATES OPEN/CLOSE TO MAINTAIN DOWNSTREAM PRESSURE OF 5 PS&I.
 7. FILTER HOUSINGS INSTALLED BACKWARDS PER DCR-1638 FOR COALESCING PURPOSES.

LEGEND
 ALL PIPING ON THIS DRAWING IS TO BE 3" I.D.

REVISED PER
 CHANGE #
 DATE 08-84

FLOR
 WASTE D:
 OF
 WISCONSIN PU
 OPERA

HYBRID

	WRITTEN EXAM ITEM REVIEW
--	--------------------------

Evaluation ID#: ROI-06-EX-WRT / SOI-06-EX-WRT

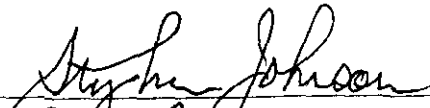
Date Evaluation Instrument Administered: 1/18/2005

Number of Trainees Evaluated: 7 (1-75) / 6 (76-100)

LIST EACH QUESTION THAT HAS AN AVERAGE SCORE LESS THAN 50%.

Question Number	Average Score (%)	Review Conclusion ¹	Corrective Action (Action and TWR#)
8	42.86	G	
19	42.86	G	
43	28.57	G	
50	28.57	G	
67	28.57	G	
76	50.00	G	
98	33.33	A, B, G	

- ¹Review Conclusions:
- A. Insufficient training for the learning objective tested
 - B. Learning objective not adequately covered in the lesson plan
 - C. Poorly worded or invalid learning objective
 - D. Poorly worded or invalid test item or answer
 - E. Incorrect answer in the exam key
 - F. More than one correct answer
 - G. Question acceptable
 - H. Other (state reason in table or on additional sheet)

Review performed by: 

Date: 11/21/05

Approved by: 
 Training Supervisor

Date: 11/22/05

WRITTEN EXAMINATION ITEM REVIEW

DETAILED SUMMARY

8. Concerning the Engineered Safety Features (ESF) initiation instrumentation for Pressurizer pressure, there are (1) channels that input to Safety Injection for (2) independent safety trains of ESF.

	<u> (1) </u>	<u> (2) </u>
A.	4	4
B.	4	2
C.	3	3
D.	3	2

Answer: D

Three channels of PRZR input to the 2 trains of ESF for the Safety Injection signal (Low Przr Pressure SI). The specific channels are PT-429, PT-430, and PT-431.

Lesson Plan RO2-055-LP055 Rev. B, Engineered Safety Features. Covered in section B.4.c.1), page 21, and on PPT slide #43, Safety Injection Actuation.

WRITTEN EXAMINATION ITEM REVIEW

DETAILED SUMMARY

19. Given the following:

- A Large Break LOCA has occurred.
- Preparations to establish one train of containment sump recirculation are in progress per ES-1.3, Transfer To Containment Sump Recirculation.
- Steps to "Align Charging Pump Suction To The VCT," and "Establish Charging Flow" are about to be completed.

Why are actions taken to (1) align Charging Pump suction to the VCT and (2) establish charging flow?

- A. (1) Protect charging pumps from losing suction.
(2) Provide RCP Seal Injection flow.
- B. (1) Preclude gas entrainment in the ECCS (RHR and SI) piping.
(2) Provide flow to the RCS while the ECCS (RHR and SI) trains are being swapped to the Containment Sump B.
- C. (1) Allow makeup to be established to the RWST.
(2) Provide condition for reestablishing letdown via the Regenerative Hx.
- D. (1) Preserve RWST inventory.
(2) Establish conditions for SI termination.

Answer: A

In ES-1.3 the Charging Pumps are aligned to the VCT so that they will have an available source of suction even if RWST "empty" condition is reached. The Charging Pump(s) is/are running or started to supply seal injection to the RXCPs.

RO4-04-LP021 Rev. B, Transfer To Containment Sump Recirculation. Covered in section E.12, Step 7 step detail. Also covered on PPT #8.

WRITTEN EXAMINATION ITEM REVIEW

DETAILED SUMMARY

43. Which of the following identifies the MAXIMUM current limit for a running RXCP, and the assumed conditions when determining this value?
- A. Maximum current is 4800 amps, expected when the RXCP is operating at cold loop condition and maximum supply voltage of 4400 volts.
 - B. Maximum current is 1073 amps, expected when the RXCP is operating at cold loop condition and minimum bus voltage value of 3600 volts.
 - C. Maximum current is 976 amps, expected when the RXCP is operating at hot loop condition and maximum supply voltage of 4400 volts.
 - D. Maximum current is 745 amps, expected when the RXCP is operating at hot loop condition and minimum supply voltage of 3600 volts.

Answer: B

N-RC-36A, Rev. AG, APPENDIX A identifies the maximum current as 1073 amps. This condition will occur when the RXCP has to move the more dense fluid (cold RCS loop temperature) and when the supply voltage is at its minimum value (3600 volts, $E/I = R$)

RO2-01-LP36A, Rev. B, Reactor Coolant Pump, section A.3.d, page 19, provides the Motor Specifications including brake horsepower (hot/cold), running current (hot/cold) power input [kW] (hot/cold, and starting current. PPT slide #32 also covers this information.

WRITTEN EXAMINATION ITEM REVIEW

DETAILED SUMMARY

50. Given the following:

- The plant is at 100% power.
- Diesel Generator (DG) A is supplying Bus 5 in parallel to the offsite power source.

What occurs if the EMERGENCY VOLTAGE SHUTDOWN button for DG A is pressed?

- A. A Bus 5 Lockout is generated.
- B. Diesel Generator A engine trips.
- C. Diesel Generator A engine will begin to motor.
- D. Breaker 1-509, DG A to Bus 5, trips.

Answer: D

E-2022, Rev. N for DG A shows depressing the Local Panel Pushbutton, VOLTAGE SHUTDOWN, with DG speed greater than 700 rpm and the Voltage Shutdown RESET pushbutton NOT depressed, will provide and output signal to a NOT box and provide a seal in until the RESET button is depressed. This condition removes the input to the NOT box that feeds TRIP BREAKER 1-509. The Alarm Response sheet for 47094-A, DIESEL GEN A EXCITATION VOLT DEENERGIZED, Comment 1, "Alarm is activated when DG A speed is > 700 rpm AND Emergency Voltage Shutdown pushbutton has been depressed." The Recommended Action for the Annunciator is, "1. VERIFY Bkr 1-509 DG A to Bus 5 OPEN."

RO2-03-LP42A, Rev. B, Diesel Generators, section A.6.d.1).f) describes the Voltage Shutdown pushbutton operation. It states that the Voltage Shutdown provides for rapid DG voltage shutdown by, 1) puts a short circuit across the DG field windings; 2) prevents field flash; and 3) trips DG output breaker. The associated PPT slide #92 covers the DG Control and Excitation Cabinet Controls, including the function of the Emergency Voltage Shutdown pushbutton.

WRITTEN EXAMINATION ITEM REVIEW

DETAILED SUMMARY

67. Given the following:

- Waste Gas Decay Tank A is in service.
- The relief valve for that tank, WG-14A, lifts and fails to reseal.

What is the effect on the plant?

- A. The release will be automatically isolated when the Waste Gas Analyzer senses the pressure drop in the Waste Gas Decay Tank.
- B. The release will be automatically isolated when the Waste Gas Decay Tank pressure reducing control valve WG-201 closes.
- C. The release will NOT be automatically isolated, but will be monitored by the Aux. Building Vent radiation monitors R-13 and R-14.
- D. The release will NOT be automatically isolated, but will be detected by the Charging Pump Room Area Monitor R-4.

Answer: C

Per drawings (OPERXK-100-132, Rev. AF) each WGDT relief goes to a common relief header that is routed into either the ducting for the SV Zone exhaust or the Aux. Bldg Ventilation exhaust headers (OPERM-604 and OPERM-601, respectively). The ducting is a direct path to the Aux Bldg Vent that is sampled by R-13 and R-14.

RO2-01-LP045, Rev. B, Radiation Monitoring, section G.2.c describes the function for R-13 and R-14 of continuously monitoring the Aux Bldg vent flow path. It also states the detectors are high sensitivity beta-gamma used to measure gaseous activity of air discharged out the stack.

AOI-81-LP32B, Rev. A, Gaseous Waste Processing & Discharge, section C.5.f describes the Waste Gas Decay Tank relief valves. The valves are set at 150 psig and relieve to the Aux Bldg and Zone SV Exhaust.

WRITTEN EXAMINATION ITEM REVIEW

DETAILED SUMMARY

76. Given the following:

- The plant was stable with reactor power at 100%.
- A reactor trip and safety injection occurred due to a Pressurizer PORV failing open and remaining full open.
- All safeguards equipment has responded per design.
- The crew implemented E-0 and transitioned to E-1, Loss of Reactor or Secondary Coolant.
- The failed PORV has just been isolated.
- The crew is currently performing Step 12 of E-1, "Check If SI Should Be Terminated".

Which combination of SI Termination Criteria is expected to be satisfied at this point?

- A. Pressurizer level AND secondary heat sink
- B. RCS subcooling AND secondary heat sink
- C. Pressurizer level AND RCS subcooling
- D. Pressurizer pressure AND RCS subcooling

Answer: A

This is a similar event to the Three Mile Island accident and gives conditions where RCS pressure would be low, RCS CET temperatures would remain relatively high and PRZR level would remain high due to the leak location and voiding in the vessel head. In this instance it should be recognized that PRZR level would be $> 5\%$ as required for the SI Termination Criteria and that since the secondary is unaffected, SG levels ($> 4\%$ [15%] NR level) OR AFW flow requirements (> 205 gpm available) would also be acceptable. However, due to the low RCS pressure and likely RCS temperatures, RCS subcooling ($> 30^{\circ}\text{F}$ [65°F]) and PRZR pressure (> 2200 psig [2000 psig]) are unlikely to be met.

WRITTEN EXAMINATION ITEM REVIEW

DETAILED SUMMARY

98. Given the following:

- A LOCA has occurred
- A radioactive spill has occurred in the Auxiliary Building.
- An SITE EMERGENCY has been declared.
- All ERO positions have been filled.
- Entry into the Auxiliary Building is required to repair the leaking flange on the RHR system
- Estimated dose for the entry and work is 7 REM TEDE.

What are the MINIMUM requirements that must met for this entry into the Auxiliary Building?

- A. EPIPF-AD-11-04, Emergency Exposure Authorization, and EPIPF-AD-11-01, Emergency Radiation Work Permit, must be completed and approved prior to entry.
- B. EPIPF-AD-11-04, Emergency Exposure Authorization, must be completed and approved prior to entry, and the individuals must sign onto the existing Maintenance Radiation Work Permit prior to entry.
- C. If a Priority Entry is made, EPIPF-AD-11-04, Emergency Exposure Authorization, must be completed and approved prior to entry, and EPIPF-AD-11-01, Emergency Radiation Work Permit, must be completed immediately following the completion of the entry.
- D. If a Priority Entry is made, EPIPF-AD-11-04, Emergency Exposure Authorization, and the individuals must log entry on the existing Maintenance Radiation Work Permit immediately following the completion of the entry.

Answer: A

The requirements for a completing an ERWP and the Emergency Exposure Authorization Form prior to entry into an area where 10CFR20 dose limits are likely to be exceeded is covered in EPIP-AD-11. The identification that such an entry is NOT a "Priority Entry" is also provided there and in EPIP-RET-02D.

EPI-01-LP001, Rev. B, Emergency Preparedness Overview, section I.4.d.2 states that under certain circumstances 10CFR20 limits may be exceeded during major radiation emergency and the approval of the ED is required.

EPI-01-011, Rev. B, Emergency Actions For The SRO, section F.2.a.2).b) provides identification of the responsibility of authorizing exposures in excess of 10CFR20. Section

WRITTEN EXAMINATION ITEM REVIEW

DETAILED SUMMARY

H.5.a.1).b) identifies EPIP-AD-11 “Emergency Radiation Controls” as the means of controlling exposures for the emergency workers.

The associated PPT does not cover this but under PARs identifies the Regulatory Requirements of 10CFR50.47 for controlling does to on-site workers.

This may be an area for improvement in preparation for NRC examination, as emergency exposures do not appear to be specifically covered.