

ATTACHMENT 2

**LICENSE AMENDMENT REQUEST 244:
PROPOSED REVISION TO RADIOLOGICAL CONSEQUENCES ANALYSIS AND
CONTROL ROOM HABITABILITY TECHNICAL SPECIFICATIONS**

MARKED-UP OPERATING LICENSE AND TECHNICAL SPECIFICATIONS PAGES

**KEWAUNEE POWER STATION
DOMINION ENERGY KEWAUNEE, INC.**

Insert 1: Proposed Change to the Kewaunee Operating License

- (XX) Upon implementation of Amendment No. [] adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air leakage as required by TS SR 3.7.10.4, in accordance with TS 5.5.17.c.1, and the assessment of CRE habitability as required by Specification TS 5.5.17.c.2, shall be considered met. Following implementation:
- (a) The first performance of TS 3.7.10.4, in accordance with Specification TS 5.5.17.c.1, shall be within the specified Frequency of 6 years, plus the 18-month allowance of TS SR 3.0.2, as measured from December 15, 2004, the date of the most recent successful tracer gas test, as stated in the April 1, 2005 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
 - (b) The first performance of the periodic assessment of CRE habitability, Specification TS 5.5.17.c.2, shall be within 3 years, plus the 9-month allowance of TS SR 3.0.2, as measured from December 15, 2004, the date of the most recent successful tracer gas test, as stated in the April 1, 2005 letter response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.

1.1 Definitions

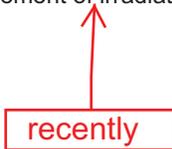
CHANNEL OPERATIONAL TEST (COT)	A COT shall be the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify OPERABILITY of all devices in the channel required for channel OPERABILITY. The COT shall include adjustments, as necessary, of the required alarm, interlock, and trip setpoints required for channel OPERABILITY such that the setpoints are within the necessary range and accuracy. The COT may be performed by means of any series of sequential, overlapping, or total channel steps.
CORE OPERATING LIMITS REPORT (COLR)	The COLR is the unit specific document that provides cycle specific parameter limits for the current reload cycle. These cycle specific parameter limits shall be determined for each reload cycle in accordance with Specification 5.6.3. Plant operation within these limits is addressed in individual Specifications.
DOSE EQUIVALENT I-131	DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries per gram) that alone would produce the same dose when inhaled as the combined activities of iodine isotopes I-131, I-132, I-133, I-134, and I-135 actually present. The determination of DOSE EQUIVALENT I-131 shall be performed using <u>ICRP-30, 1979, Supplement to Part 1, page 192-212, Table titled, "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity."</u>
DOSE EQUIVALENT XE-133	DOSE EQUIVALENT XE-133 shall be that concentration of Xe-133 (microcuries per gram) that alone would produce the same acute dose to the whole body as the combined activities of noble gas nuclides Kr-85m, Kr-85, Kr-87, Kr-88, Xe-131m, Xe-133m, Xe-133, Xe-135m, Xe-135, and Xe-138 actually present. If a specific noble gas nuclide is not detected, it should be assumed to be present at the minimum detectable activity. The determination of DOSE EQUIVALENT XE-133 shall be performed using effective dose conversion factors for air submersion listed in Table III.1 of EPA Federal Guidance Report No. 12, 1993, "External Exposure to Radionuclides in Air, Water, and Soil."

Committed Dose Equivalent (CDE) dose conversion factors from Table 2.1 of EPA Federal Guidance Report No. 11, 1988, "Limiting Values of Radionuclides Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion".

Table 3.3.6-1 (page 1 of 1)
Containment Purge and Vent Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS
1. Automatic Actuation Logic and Actuation Relays	1,2,3,4, (a)	2 trains	SR 3.3.6.2
2. Containment Radiation			
a. Gaseous	1,2,3,4, (a)	2	SR 3.3.6.1 SR 3.3.6.3 SR 3.3.6.4
b. Particulate	1,2,3,4, (a)	1	SR 3.3.6.1 SR 3.3.6.3 SR 3.3.6.4
3. Containment Isolation - Manual Initiation	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 3.a, for all initiation functions and requirements.		
4. Containment Spray - Manual Initiation	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 2.a, for all initiation functions and requirement.		
5. Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for all functions and requirements.		

(a) During movement of irradiated fuel assemblies within containment.



recently

3.3 INSTRUMENTATION

3.3.7 Control Room Post Accident Recirculation (CRPAR) System Actuation Instrumentation

LCO 3.3.7 The CRPAR System actuation instrumentation for each Function in Table 3.3.7-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.7-1.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One Automatic Actuation Logic and Actuation Relay train inoperable.	A.1 Place associated CRPAR train in emergency mode.	7 days
B. Two Automatic Actuation Logic and Actuation Relay trains inoperable.	B.1.1 Place one CRPAR train in emergency mode. <u>AND</u> B.1.2 Enter applicable Conditions and Required Actions for one CRPAR train made inoperable by inoperable CRPAR System actuation instrumentation.	Immediately Immediately
<u>OR</u> Control Room Vent Radiation Monitor inoperable.	<u>OR</u> B.2 Place both CRPAR trains in emergency mode.	Immediately

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time for Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3.	6 hours
	<u>AND</u> C.2 Be in MODE 5.	36 hours
D. Required Action and associated Completion Time for Condition A or B not met during movement of irradiated fuel assemblies.	D.1 Suspend movement of irradiated fuel assemblies. ↑ recently	Immediately
E. Required Action and associated Completion Time for Condition A or B not met in MODE 5 or 6	E.1 Initiate action to restore one CRPAR train to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

NOTE

Refer to Table 3.3.7-1 to determine which SRs apply for each CRPAR System Actuation Function.

SURVEILLANCE	FREQUENCY
SR 3.3.7.1 Perform CHANNEL CHECK.	12 hours
SR 3.3.7.2 Perform COT in accordance with the Setpoint Control Program.	92 days

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.7.3 <div style="text-align: center;">↑ <div style="border: 1px solid red; padding: 2px;">3.3.7.1</div> </div>	<p>-----NOTE----- This Surveillance is only applicable to the actuation logic of the ESFAS Instrumentation. -----</p> <p>Perform ACTUATION LOGIC TEST.</p>	18 months
SR 3.3.7.4	Perform CHANNEL CALIBRATION in accordance with the Setpoint Control Program.	18 months

Table 3.3.7-1 (page 1 of 1)
CRPAR System Actuation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS
1. Automatic Actuation Logic and Actuation Relays	1, 2, 3, 4, 5, 6, (a)	2 trains	SR 3.3.7.3
2 Control Room Vent Radiation Monitor	1, 2, 3, 4, 5, 6, (a)	1	SR 3.3.7.1 SR 3.3.7.2 SR 3.3.7.4
3 Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for all initiation functions and requirements.		

3.3.7.1

3.3.7.3

3

2.

(a) During movement of irradiated fuel assemblies.

recently

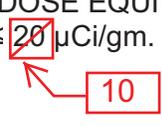
3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.16 RCS Specific Activity

LCO 3.4.16 RCS DOSE EQUIVALENT I-131 and DOSE EQUIVALENT XE-133 specific activity shall be within limits.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. DOSE EQUIVALENT I-131 not within limit.</p>	<p>-----NOTE----- LCO 3.0.4.c is applicable. -----</p> <p>A.1 Verify DOSE EQUIVALENT I-131 \leq 20 μCi/gm.  <u>AND</u></p> <p>A.2 Restore DOSE EQUIVALENT I-131 to within limit.</p>	<p>Once per 4 hours</p> <p>48 hours</p>
<p>B. DOSE EQUIVALENT XE-133 not within limit.</p>	<p>-----NOTE----- LCO 3.0.4.c is applicable. -----</p> <p>B.1 Restore DOSE EQUIVALENT XE-133 to within limit.</p>	<p>48 hours</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition A or B not met. <u>OR</u> DOSE EQUIVALENT I-131 > 20 $\mu\text{Ci/gm.}$	C.1 Be in MODE 3.	6 hours
	<u>AND</u> C.2 Be in MODE 5.	36 hours

10

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.16.1 Verify reactor coolant DOSE EQUIVALENT XE-133 specific activity \leq 595 $\mu\text{Ci/gm.}$	7 days
SR 3.4.16.2 Verify reactor coolant DOSE EQUIVALENT I-131 specific activity \leq 1.0 $\mu\text{Ci/gm.}$	14 days <u>AND</u> Between 2 and 6 hours after a THERMAL POWER change of \geq 15% RTP within a 1 hour period

16.4

0.1

3.7 PLANT SYSTEMS

3.7.10 Control Room Post Accident Recirculation (CRPAR) System

LCO 3.7.10 Two CRPAR trains shall be OPERABLE.

envelope (CRE)

-----NOTE-----
The control room boundary may be opened intermittently under administrative control.

-----NOTE-----
The CRE shall be isolated during movement of recently irradiated fuel assemblies

APPLICABILITY: MODES 1, 2, 3, 4, 5, and 6,
During movement of irradiated fuel assemblies.

and recently

ACTIONS

for reasons other than Condition B

Insert 2

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CRPAR train inoperable.	A.1 Restore CRPAR train to OPERABLE status.	7 days
B. Two CRPAR trains inoperable due to inoperable control room boundary in MODE 1, 2, 3, or 4.	B.1 Restore control room boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3. <u>AND</u> C.2 Be in MODE 5.	6 hours 36 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A not met in MODE 5 or 6 , or during movement of irradiated fuel assemblies.	D.1 Place OPERABLE CRPAR train in emergency mode.	Immediately
	<u>OR</u> D.2 Suspend movement of irradiated fuel assemblies.	Immediately
E. Two CRPAR trains inoperable in MODE 5 or 6 , or during movement of irradiated fuel assemblies.	E.1 Suspend movement of irradiated fuel assemblies.	Immediately
F. Two CRPAR trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.	F.1 Enter LCO 3.0.3.	Immediately

Insert 3

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.10.1 Operate each CRPAR train for \geq 15 minutes.	31 days
SR 3.7.10.2 Perform required CRPAR filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.10.3 Verify each CRPAR train actuates on an actual or simulated actuation signal.	18 months

SR 3.7.10.4	Perform required CRE unfiltered air leakage testing in accordance with CRE Habitability Program	In accordance with CRE Habitability Program
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Insert 2:

B. One or more CRPAR trains inoperable due to an inoperable CRE boundary in Modes 1, 2, 3, or 4.	B.1 Initiate action to implement mitigating actions.	Immediately
	<u>AND</u>	
	B.2 Verify mitigating actions ensure CRE occupant exposures to radiological, chemical, and smoke hazards will not exceed limits.	24 hours
	<u>AND</u>	
	B.3 Restore CRE boundary to OPERABLE status.	90 days

Insert 3:

<u>OR</u> Required Actions and associated Completion Times of Condition B not met during movement of recently irradiated fuel assemblies.		
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3.7 PLANT SYSTEMS

3.7.11 Control Room Air Conditioning (CRAC) Alternate Cooling System

LCO 3.7.11 Two CRAC Alternate Cooling trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4,
During movement of irradiated fuel assemblies.

recently

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CRAC Alternate Cooling train inoperable.	A.1 Restore CRAC Alternate Cooling train to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, 3, or 4.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	36 hours
C. Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies.	C.1 Place OPERABLE CRAC Alternate Cooling train in operation.	Immediately
	<u>OR</u> C.2 Suspend movement of irradiated fuel assemblies.	Immediately
D. Two CRAC Alternate Cooling trains inoperable during movement of irradiated fuel assemblies.	D.1 Suspend movement of irradiated fuel assemblies.	Immediately

recently

recently

recently

recently

3.7 PLANT SYSTEMS

3.7.16 Secondary Specific Activity

LCO 3.7.16 The specific activity of the secondary coolant shall be ≤ 0.10 $\mu\text{Ci/gm}$ DOSE EQUIVALENT I-131.

0.05

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Specific activity not within limit.	A.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	A.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.16.1 Verify the specific activity of the secondary coolant is ≤ 0.10 $\mu\text{Ci/gm}$ DOSE EQUIVALENT I-131.	31 days

0.05

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2.2 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.	Immediately
	<p style="text-align: center;"><u>AND</u></p> A.2.3 Initiate action to restore required offsite power circuit to OPERABLE status.	Immediately
B. One required DG inoperable.	B.1 Suspend movement of irradiated fuel assemblies.	Immediately
	<p style="text-align: center;"><u>AND</u></p> B.2 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.	Immediately
	<p style="text-align: center;"><u>AND</u></p> B.3 Initiate action to restore required DG to OPERABLE status.	Immediately

recently



3.8 ELECTRICAL POWER SYSTEMS

3.8.5 DC Sources - Shutdown

LCO 3.8.5 One DC electrical power subsystem shall be OPERABLE to support one subsystem of the DC Electrical Power Distribution System required by LCO 3.8.10, "Distribution System - Shutdown."

APPLICABILITY: MODES 5 and 6, recently ↓
During movement of irradiated fuel assemblies.

ACTIONS

-----NOTE-----
LCO 3.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required DC electrical power subsystem inoperable.	A.1 Suspend movement of irradiated fuel assemblies.	Immediately
	<p style="text-align: center;"><u>AND</u></p> A.2 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.	Immediately
	<p style="text-align: center;"><u>AND</u></p> A.3 Initiate action to restore required DC electrical power subsystem to OPERABLE status.	Immediately

3.8 ELECTRICAL POWER SYSTEMS

3.8.8 Inverters - Shutdown

LCO 3.8.8 One inverter shall be OPERABLE to support the 120 VAC electrical distribution subsystem required by LCO 3.8.10, "Distribution Systems - Shutdown."

recently

APPLICABILITY: MODES 5 and 6,
During movement of irradiated fuel assemblies.

ACTIONS

-----NOTE-----

LCO 3.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required inverter inoperable.	A.1 Suspend movement of irradiated fuel assemblies.	Immediately
	<u>AND</u>	
	A.2 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.	Immediately
	<u>AND</u>	
	A.3 Initiate action to restore required inverter to OPERABLE status.	Immediately

3.8 ELECTRICAL POWER SYSTEMS

3.8.10 Distribution Systems - Shutdown

LCO 3.8.10 The necessary portion of AC, DC, and AC instrument bus electrical power distribution subsystems shall be OPERABLE to support equipment required to be OPERABLE.

recently

APPLICABILITY: MODES 5 and 6,
During movement of irradiated fuel assemblies.

ACTIONS

NOTE

LCO 3.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required AC, DC, or AC instrument bus electrical power distribution subsystems inoperable.	A.1 Declare associated supported required feature(s) inoperable.	Immediately
	<u>OR</u>	
	A.2.1 Suspend movement of irradiated fuel assemblies.	Immediately
	<u>AND</u>	
	A.2.2 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.	Immediately
	<u>AND</u>	

3.9 REFUELING OPERATIONS

3.9.6 Containment Penetrations

LCO 3.9.6

The containment penetrations shall be in the following status:

- a. The equipment hatch is closed and held in place by four bolts;
- b. One door in each air lock is capable of being closed; and
- c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere is either:
 - 1. Closed by a manual or automatic isolation valve, blind flange, or equivalent; or
 - 2. Capable of being closed by an OPERABLE Containment Purge and Vent Isolation System.

APPLICABILITY: During movement of irradiated fuel assemblies within containment.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more containment penetrations not in required status.	A.1 Suspend movement of irradiated fuel assemblies within containment.	Immediately

-----NOTE-----
 Penetration flow paths providing direct access from the containment to outside atmosphere may be opened under administrative controls.

5.5 Programs and Manuals

5.5.16 Setpoint Control Program (continued)

10 CFR 50.90 is required to change the listed value of the NTSP, AV, AFT, and ALT (as applicable) for each Function described in Paragraph a.

- c. The program shall establish methods to ensure that Functions described in Paragraph a. will function as required by verifying the as-left and as-found settings are consistent with the list of values established by Paragraph b. If the as-found value of the instrument channel trip setting is less conservative than the specified AV, then the SR is not met and the instrument channel shall be immediately declared inoperable.
- d. The program shall identify the Functions described in Paragraph a. that are automatic protective devices related to variables having significant safety functions as delineated by 10 CFR 50.36(c)(1)(ii)(A). The NTSP of these Functions are Limiting Safety System Settings. These Functions shall be demonstrated to be functioning as required by applying the following requirements during CHANNEL CALIBRATIONS, CHANNEL OPERATIONAL TESTS, and TRIP ACTUATING DEVICE OPERATIONAL TESTS that verify the NTSP.
 - 1. The as-found value of the instrument channel trip setting shall be compared with the previous as-left value or the specified NTSP.
 - 2. If the as-found value of the instrument channel trip setting differs from the previous as-left value or the specified NTSP by more than the pre-defined test acceptance criteria band (i.e., the specified AFT), then the instrument channel shall be evaluated before declaring the SR met and returning the instrument channel to service. This condition shall be entered in the plant corrective action program.
 - 3. If the as-found value of the instrument channel trip setting is less conservative than the specified AV, then the SR is not met and the instrument channel shall be immediately declared inoperable.
 - 4. The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the NTSP at the completion of the surveillance test; otherwise, the channel is inoperable (setpoints may be more conservative than the NTSP provided that the as-found and as-left tolerances apply to the actual setpoint used to confirm channel performance).
- e. The program shall be specified in the Technical Requirements Manual.

5.5.17 (see Insert 4)

Insert 4:

5.5.17 Control Room Envelope Habitability Program

A Control Room Envelope (CRE) Habitability Program shall be established and implemented to ensure that CRE habitability is maintained such that, with an OPERABLE Control Room Post-Accident Recirculation (CRPAR) System and CRE boundary, CRE occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under design basis accident (DBA) conditions without personnel receiving radiation exposures in excess of 5 rem total effective dose equivalent (TEDE) for the duration of the accident. The program shall include the following elements:

- a. The definition of the CRE and the CRE boundary.
- b. Requirements for maintaining the CRE boundary in its design condition including configuration control and preventive maintenance.
- c. Requirements for:
 1. Determining the unfiltered air in-leakage past the CRE boundary into the CRE in accordance with the testing methods and at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003, and;
 2. Assessing CRE habitability at the frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0.
- d. Licensee controlled programs will be used to verify the integrity of the CRE boundary. Conditions that generate relevant information from those programs will be entered into the corrective action process and shall be trended and used as part of the 36-month assessment of the CRE boundary in accordance with TS 5.5.17.c.2.
- e. The quantitative limits on unfiltered air in-leakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph c. The unfiltered air inleakage limit for radiological challenges is the inleakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air inleakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.
- f. The provisions of SR 3.0.2 are applicable to the frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and assessing the CRE boundary as required by TS 5.5.17.c. and TS 5.5.17.d., respectively.