UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 10, 2010

Mr. John T. Carlin
Vice President - R.E. Ginna Nuclear Power Plant
R.E. Ginna Nuclear Power Plant, LLC
1503 Lake Road
Ontario, NY 14519

SUBJECT: R.E. GINNA NUCLEAR POWER PLANT - AMENDMENT REGARDING CHANGES RELATED TO LIMITING CONDITIONS FOR OPERATION IN TECHNICAL SPECIFICATIONS 3.3.2, 3.3.4, AND 3.8.1 (TAC NO. ME0291)

Dear Mr. Carlin:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 109 to Renewed Facility Operating License No. DPR-18 for the R.E. Ginna Nuclear Power Plant. This amendment is in response to your application dated December 19, 2008, as supplemented by letters dated January 22, July 24, and November 23, 2009.

The amendment modifies the Technical Specifications (TSs) to: (1) correct an error in TS Table 3.3.2-1, "Engineered Safety Feature Actuation System Instrumentation," Function 1.a, to reflect the correct CONDITIONS for applicable Modes 1, 2, 3, and, 4; (2) revise TS Limiting Condition for Operation 3.3.4 degraded voltage relay and loss of voltage relay Limiting Safety System Setting values to reflect the revised analysis; and (3) revise the load requirement of Surveillance Requirement 3.8.1.3 to reflect values supported by the diesel generator accident loading analyses.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

Douglas V. Pickett

Douglas V. Pickett, Senior Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-244

Enclosures:
1. Amendment No. 109 to Renewed License No. DPR-18
2. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

R.E. GINNA NUCLEAR POWER PLANT, LLC

DOCKET NO. 50-244

R.E. GINNA NUCLEAR POWER PLANT

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 109
Renewed License No. DPR-18

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:

   A. The application for amendment filed by the R.E. Ginna Nuclear Power Plant, LLC (the licensee) dated December 19, 2008, as supplemented on January 22, July 24, and November 23, 2009, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-18 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 109, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Nancy L. Salgado

Nancy L. Salgado, Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the License and Technical Specifications

Date of Issuance: March 10, 2010

ATTACHMENT TO LICENSE AMENDMENT NO. 109

RENEWED FACILITY OPERATING LICENSE NO. DPR-18

DOCKET NO. 50-244

Replace the following page of the Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove	Insert
3	3

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
3.3.2-1	3.3.2-1
3.3.2-2	3.3.2-2
3.3.2-3	3.3.2-3
3.3.2-4	3.3.2-4
3.3.2-5	3.3.2-5
3.3.2-6	3.3.2-6
3.3.2-7	3.3.2-7
3.3.2-8	3.3.2-8
3.3.2-9	3.3.2-9
3.3.2-10	3.3.2-10
3.3.4-1	3.3.4-1
3.3.4-2	3.3.4-2
3.8.1.-1	3.8.1-1
3.8.1.-2	3.8.1-2
3.8.1.-3	3.8.1-3
3.8.1.-4	3.8.1-4
3.8.1.-5	3.8.1-5

(b) Pursuant to the Act and 10 CFR Part 70, to possess and use four (4) mixed oxide fuel assemblies in accordance with the RG&E's application dated December 14, 1979 (transmitted by letter dated December 20, 1979), as supplemented February 20, 1980, and March 5, 1980;

(3) Pursuant to the Act and 10 CFR Parts 30, 40, and 70 to receive, possess, and use at any time any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; and is subject to all applicable provisions of the Act and rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

(1) Maximum Power Level

Ginna LLC is authorized to operate the facility at steady-state power levels up to a maximum of 1775 megawatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 109, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Fire Protection

(a) The licensee shall implement and maintain in effect all fire protection features described in the licensee's submittals referenced in and as approved or modified by the NRC's Fire Protection Safety Evaluation (SE) dated February 14, 1979, and

3.3 INSTRUMENTATION

3.3.2 Engineered Safety Feature Actuation System (ESFAS) Instrumentation

LCO 3.3.2 The ESFAS instrumentation for each Function in Table 3.3.2-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.2-1.

ACTIONS

- NOTE -
Separate Condition entry is allowed for each Function.

	CONDITION		REQUIRED ACTION	COMPLETION TIME
A.	One or more Functions with one channel or train inoperable.	A.1	Enter the Condition referenced in Table 3.3.2-1 for the channel or train.	Immediately
B.	As required by Required Action A.1 and referenced by Table 3.3.2-1.	B.1	Restore channel to OPERABLE status.	48 hours
C.	Required Action and associated Completion Time of Condition B not met.	C.1	Be in MODE 2.	6 hours
D.	As required by Required Action A.1 and referenced by Table 3.3.2-1.	D.1	Restore channel to OPERABLE status.	48 hours
E.	As required by Required Action A.1 and referenced by Table 3.3.2-1.	E.1	Restore train to OPERABLE status.	6 hours

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. As required by Required Action A.1 and referenced by Table 3.3.2-1.	F.1 ------------------ - NOTE - The inoperable channel may be bypassed for up to 4 hours for surveillance testing of the other channels. ------------------ Place channel in trip.	6 hours
G. Required Action and associated Completion Time of Condition D, E, or F not met.	G.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	G.2 Be in MODE 4.	12 hours
H. As required by Required Action A.1 and referenced by Table 3.3.2-1.	H.1 Restore channel to OPERABLE status.	48 hours
I. As required by Required Action A.1 and referenced by Table 3.3.2-1.	I.1 Restore train to OPERABLE status.	6 hours
J. As required by Required Action A.1 and referenced by Table 3.3.2-1.	J.1 ------------------ - NOTE - The inoperable channel may be bypassed for up to 4 hours for surveillance testing of the other channels. ------------------ Place channel in trip.	6 hours
K. Required Action and associated Completion Time of Condition H, I, or J not met.	K.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	K.2 Be in MODE 5.	36 hours

CONDITION		REQUIRED ACTION		COMPLETION TIME
L.	As required by Required Action A.1 and referenced by Table 3.3.2-1.	L.1	- NOTE - The inoperable channel may be bypassed for up to 4 hours for surveillance testing of the other channels. Place channel in trip.	6 hours
M.	Required Action and associated Completion Time of Condition L not met.	M.1 AND	Be in MODE 3.	6 hours
		M.2	Reduce pressurizer pressure to < 2000 psig.	12 hours
N.	As required by Required Action A.1 and referenced by Table 3.3.2-1.	N.1	Declare associated Auxiliary Feedwater pump inoperable and enter applicable condition(s) of LCO 3.7.5, "Auxiliary Feedwater (AFW) System."	Immediately

SURVEILLANCE REQUIREMENTS

- NOTE -
Refer to Table 3.3.2-1 to determine which SRs apply for each ESFAS Function.

SURVEILLANCE		FREQUENCY
SR 3.3.2.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.2.2	Perform COT.	92 days
SR 3.3.2.3	- NOTE - Verification of relay setpoints not required. Perform TADOT.	92 days

	SURVEILLANCE	FREQUENCY
SR 3.3.2.4	- NOTE - Verification of relay setpoints not required. Perform TADOT.	24 months
SR 3.3.2.5	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.2.6	Verify the Pressurizer Pressure-Low and Steam Line Pressure-Low Functions are not bypassed when pressurizer pressure > 2000 psig.	24 months
SR 3.3.2.7	Perform ACTUATION LOGIC TEST.	24 months

Table 3.3.2-1
Engineered Safety Feature Actuation System Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	LIMITING SAFETY SYSTEM SETTINGS[a]
1.	Safety Injection					
a.	Manual Initiation	1,2,3,4	2	H,K	SR 3.3.2.4	NA
b.	Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	I,K	SR 3.3.2.7	NA
c.	Containment Pressure-High	1,2,3,4	3	J,K	SR 3.3.2.1 SR 3.3.2.2 SR 3.3.2.5	≤ 4.61 psig
d.	Pressurizer Pressure-Low	1,2,3[b]	3	L,M	SR 3.3.2.1 SR 3.3.2.2 SR 3.3.2.5 SR 3.3.2.6	≥ 1729.8 psig
e.	Steam Line Pressure-Low	1,2,3[b]	3 per steam line	L,M	SR 3.3.2.1 SR 3.3.2.2 SR 3.3.2.5 SR 3.3.2.6	≥ 393.8 psig

Table 3.3.2-1
Engineered Safety Feature Actuation System Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	LIMITING SAFETY SYSTEM SETTINGS[a]
2.	Containment Spray					
a.	Manual Initiation					
	Left pushbutton	1,2,3,4	1	H,K	SR 3.3.2.4	NA
	Right pushbutton	1,2,3,4	1	H,K	SR 3.3.2.4	NA
b.	Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	I,K	SR 3.3.2.7	NA
c.	Containment Pressure-High High	1,2,3,4	3 per set	J,K	SR 3.3.2.1 SR 3.3.2.2 SR 3.3.2.5	≤ 32.11 psig (narrow range) ≤ 29.6 psig (wide range)
3.	Containment Isolation					
a.	Manual Initiation	1,2,3,4,[c]	2	H,K	SR 3.3.2.4	NA
b.	Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	I,K	SR 3.3.2.7	NA
c.	Safety Injection	Refer to Function 1 (Safety Injection) for all automatic initiation functions and requirements.				

Table 3.3.2-1
Engineered Safety Feature Actuation System Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	LIMITING SAFETY SYSTEM SETTINGS[a]
4.	Steam Line Isolation					
a.	Manual Initiation	1,2[d],3[d]	1 per loop	D,G	SR 3.3.2.4	NA
b.	Automatic Actuation Logic and Actuation Relays	1,2[d],3[d]	2 trains	E,G	SR 3.3.2.7	NA
c.	Containment Pressure-High High	1,2[d],3[d]	3	F,G	SR 3.3.2.1 SR 3.3.2.2 SR 3.3.2.5	≤ 18.0 psig
d.	High Steam Flow	1,2[d],3[d]	2 per steam line	F,G	SR 3.3.2.1 SR 3.3.2.2 SR 3.3.2.5	≤ 1.30E6 lbm/hr @ 1005 psig
	Coincident with Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
	and					
	Coincident with T_{avg}-Low	1,2[d],3[d]	2 per loop	F,G	SR 3.3.2.1 SR 3.3.2.2 SR 3.3.2.5	≥ 544.0°F
e.	High-High Steam Flow	1,2[d],3[d]	2 per steam line	F,G	SR 3.3.2.1 SR 3.3.2.2 SR 3.3.2.5	≤ 4.53E6 lbm/hr @ 785 psig
	Coincident with Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				

Table 3.3.2-1
Engineered Safety Feature Actuation System Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	LIMITING SAFETY SYSTEM SETTINGS[a]
5.	Feedwater Isolation					
a.	Automatic Actuation Logic and Actuation Relays	1,2[e],3[e]	2 trains	E,G	SR 3.3.2.7	NA
b.	SG Water Level-High	1,2[e],3[e]	3 per SG	F,G	SR 3.3.2.1 SR 3.3.2.2 SR 3.3.2.5	≤ 91.15%
c.	Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				

Table 3.3.2-1
Engineered Safety Feature Actuation System Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	LIMITING SAFETY SYSTEM SETTINGS[a]
6.	Auxiliary Feedwater (AFW)					
a.	Manual Initiation					
	AFW	1,2,3	1 per pump	N	SR 3.3.2.4	NA
	Standby AFW	1,2,3	1 per pump	N	SR 3.3.2.4	NA
b.	Automatic Actuation Logic and Actuation Relays	1,2,3	2 trains	E,G	SR 3.3.2.7	NA
c.	SG Water Level-Low Low	1,2,3	3 per SG	F,G	SR 3.3.2.1 SR 3.3.2.2 SR 3.3.2.5	≥ 13.88%
d.	Safety Injection (Motor driven pumps only)	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
e.	Undervoltage - Bus 11A and 11B (Turbine driven pump only)	1,2,3	2 per bus	D,G	SR 3.3.2.3 SR 3.3.2.5	≥ 2597 V with ≤ 3.6 sec time delay
f.	Trip of Both Main Feedwater Pumps (Motor driven pumps only)	1	2 per MFW pump	B,C	SR 3.3.2.4	NA

(a)

A channel is OPERABLE when both of the following conditions are met:

1. The absolute difference between the as-found Trip Setpoint (TSP) and the previous as-left TSP is within the COT Acceptance Criteria. The COT Acceptance Criteria is defined as:

   |as-found TSP - previous as-left TSP| ≤ COT uncertainty

   The COT uncertainty shall not include the calibration tolerance.

2. The as-left TSP is within the established calibration tolerance band about the nominal TSP. The nominal TSP is the desired setting and shall not exceed the Limiting Safety System Setting (LSSS). The LSSS and the established calibration tolerance band are defined in accordance with the Ginna Instrument Setpoint Methodology. The channel is considered operable even if the as-left TSP is non-conservative with respect to the LSSS provided that the as-left TSP is within the established calibration tolerance band.

(b) Pressurizer Pressure ≥ 2000 psig.

(c) During CORE ALTERATIONS and movement of irradiated fuel assemblies within containment.

(d) Except when both MSIVs are closed and de-activated.

(e) Except when all Main Feedwater Regulating and associated bypass valves are closed and de-activated or isolated by a closed manual valve.

3.3 INSTRUMENTATION

3.3.4 Loss of Power (LOP) Diesel Generator (DG) Start Instrumentation

LCO 3.3.4 Each 480 V safeguards bus shall have two OPERABLE channels of LOP DG Start Instrumentation.

APPLICABILITY: MODES 1, 2, 3, and 4,
When associated DG is required to be OPERABLE by LCO 3.8.2, "AC Sources - MODES 5 and 6."

ACTIONS

- NOTE -
Separate Condition entry is allowed for each 480 V safeguards bus.

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One or more 480 V bus(es) with one channel inoperable.	A.1	Place channel(s) in trip.	6 hours
B.	Required Action and associated Completion Time of Condition A not met. OR One or more 480 V bus(es) with two channels inoperable.	B.1	Enter applicable Condition(s) and Required Action(s) for the associated DG made inoperable by LOP DG start instrumentation.	Immediately

SURVEILLANCE REQUIREMENTS

- NOTE -

When a channel is placed in an inoperable status solely for the performance of required Surveillances, entry into the associated Conditions and Required Actions may be delayed for up to 4 hours provided the second channel maintains LOP DG start capability.

	SURVEILLANCE	FREQUENCY
SR 3.3.4.1	Perform TADOT.	31 days
SR 3.3.4.2	Perform CHANNEL CALIBRATION with Limiting Safety System Settings (LSSS)[(a)] for each 480 V bus as follows: a. Loss of voltage LSSS ≥ 372.0 V and ≤ 374.8 V with a time delay of ≥ 2.13 seconds and ≤ 2.62 seconds. b. Degraded voltage LSSS ≥ 420.0 V and ≤ 423.6 V with a time delay of ≥ 68.1 seconds and ≤ 125 seconds (@ 420 V) and ≥ 71.8 seconds and ≤ 125 seconds (@ 423.6 V).	24 months

(a) A channel is OPERABLE when both of the following conditions are met:

1. The absolute difference between the as-found Trip Setpoint (TSP) and the previous as-left TSP is within the CHANNEL CALIBRATION Acceptance Criteria. The CHANNEL CALIBRATION Acceptance Criteria is defined as:

   |as-found TSP - previous as-left TSP| ≤ CHANNEL CALIBRATION uncertainty

   The CHANNEL CALIBRATION uncertainty shall not include the calibration tolerance.

2. The as-left TSP is within the established calibration tolerance band about the nominal TSP. The nominal TSP is the desired setting and shall not exceed the LSSS. The LSSS and the established calibration tolerance band are defined in accordance with the Ginna Instrument Setpoint Methodology. The channel is considered operable even if the as-left TSP is non-conservative with respect to the LSSS provided that the as-left TSP is within the established calibration tolerance band.

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources - MODES 1, 2, 3, and 4

LCO 3.8.1 The following AC electrical sources shall be OPERABLE:

a. One qualified independent offsite power circuit connected between the offsite transmission network and each of the onsite 480 V safeguards buses required by LCO 3.8.9, "Distribution Subsystems - MODES 1, 2, 3, and 4"; and

b. Two emergency diesel generators (DGs) capable of supplying their respective onsite 480 V safeguards buses required by LCO 3.8.9.

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

ACTIONS

- NOTE -

LCO 3.0.4.b is not applicable to DGs.

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	Offsite power to one or more 480 V safeguards bus(es) inoperable.	A.1	Declare required feature(s) inoperable when its redundant required feature(s) is inoperable.	12 hours from discovery of Condition A concurrent with inoperability of redundant required feature(s)
		AND		
		A.2	Restore offsite circuit to OPERABLE status.	72 hours
B.	One DG inoperable.	B.1	Perform SR 3.8.1.1 for the offsite circuit.	1 hour AND Once per 8 hours thereafter
		AND		

CONDITION	REQUIRED ACTION	COMPLETION TIME
	B.2 Declare required feature(s) supported by the inoperable DG inoperable when its required redundant feature(s) is inoperable. AND	4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)
	B.3.1 Determine OPERABLE DG is not inoperable due to common cause failure. OR	24 hours
	B.3.2 Perform SR 3.8.1.2 for OPERABLE DG. AND	24 hours
	B.4 Restore DG to OPERABLE status.	7 days
C. Offsite power to one or more 480 V safeguards bus(es) inoperable. AND One DG inoperable.	- - - - - - - - - - - - - - - - - - - NOTE - Enter applicable Conditions and Required Actions of LCO 3.8.9, "Distribution Systems - MODES 1, 2, 3, and 4," when Condition C is entered with no AC power source to one distribution train. - - - - - - - - - - - - - - - - - - C.1 Restore required offsite circuit to OPERABLE status. OR	12 hours
	C.2 Restore DG to OPERABLE status.	12 hours

CONDITION		REQUIRED ACTION		COMPLETION TIME
D.	Required Action and associated Completion Time of Condition A, B, or C not met.	D.1	Be in MODE 3.	6 hours
		AND		
		D.2	Be in MODE 5.	36 hours
E.	Two DGs inoperable.	E.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.1	Verify correct breaker alignment and indicated power availability for the offsite circuit to each of the 480 V safeguards buses.	7 days
SR 3.8.1.2	- NOTE - 1. Performance of SR 3.8.1.9 satisfies this SR. 2. All DG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading.	
	Verify each DG starts from standby conditions and achieves rated voltage and frequency.	31 days

	SURVEILLANCE	FREQUENCY
SR 3.8.1.3	- NOTE - 1. DG loadings may include gradual loading as recommended by the manufacturer. 2. Momentary transients outside the load range do not invalidate this test. 3. This Surveillance shall be conducted on only one DG at a time. 4. This SR shall be preceded by and immediately follow without shutdown a successful performance of SR 3.8.1.2 or SR 3.8.1.9. Verify each DG is synchronized and loaded and operates for ≥ 60 minutes and < 120 minutes at a load ≥ 2025 kW and < 2250 kW.	31 days
SR 3.8.1.4	Verify the fuel oil level in each day tank.	31 days
SR 3.8.1.5	Verify the DG fuel oil transfer system operates to transfer fuel oil from each storage tank to the associated day tank.	31 days
SR 3.8.1.6	Verify transfer of AC power sources from the 50/50 mode to the 100/0 mode and 0/100 mode.	24 months
SR 3.8.1.7	- NOTE - 1. This Surveillance shall not be performed in MODE 1, 2, 3, or 4. 2. Credit may be taken for unplanned events that satisfy this SR. Verify each DG does not trip during and following a load rejection of ≥ 295 kW.	24 months

	SURVEILLANCE	FREQUENCY
SR 3.8.1.8	- NOTE - 1. This Surveillance shall not be performed in MODE 1, 2, 3, or 4. 2. Credit may be taken for unplanned events that satisfy this SR. Verify each DG automatic trips are bypassed on an actual or simulated safety injection (SI) signal except: a. Engine overspeed; b. Low lube oil pressure; and c. Start failure (overcrank) relay.	24 months
SR 3.8.1.9	- NOTE - 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, 3, or 4. 3. Credit may be taken for unplanned events that satisfy this SR. Verify on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated SI actuation signal: a. De-energization of 480 V safeguards buses; b. Load shedding from 480 V safeguards buses; and c. DG auto-starts from standby condition and: 1. energizes permanently connected loads, 2. energizes auto-connected emergency loads through the load sequencer, and 3. supplies permanently and auto-connected emergency loads for $\geq$ 5 minutes.	24 months

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 109 TO RENEWED FACILITY

OPERATING LICENSE NO. DPR-18

R.E. GINNA NUCLEAR POWER PLANT, LLC

R.E. GINNA NUCLEAR POWER PLANT

DOCKET NO. 50-244

1.0 INTRODUCTION

By letter dated December 19, 2008 (ADAMS Accession No. ML090060741), as supplemented by letters dated January 22 (ML090330275), July 24 (ML092100445), and November 23, 2009 (ML093500094), R.E. Ginna Nuclear Power Plant, LCC (the licensee) submitted a license amendment request (LAR) for the R.E. Ginna Nuclear Power Plant to modify the Technical Specifications (TSs) which included: (1) correcting an error in TS Table 3.3.2-1; (2) revising the loss of power (LOP) and degraded voltage instrumentation settings specified in Surveillance Requirement (SR) 3.3.4.2; and (3) revising the diesel generator (DG) load test value specified in SR 3.8.1.3.

Specifically, the following proposed TS changes are discussed in this safety evaluation:

(1) Revising the CONDITIONS of TS Table 3.3.2-1, "Engineered Safety Feature Actuation System Instrumentation," Function 1.a, "Safety Injection Manual Initiation."

(2) Limiting Condition for Operation (LCO) 3.3.4 – Revision to the degraded voltage relay and loss of voltage relay setting values specified in SR 3.3.4.2.

(3) LCO 3.8.1 – Revision to the emergency DG loading requirement specified in SR 3.8.1.3.

In support of the TS changes, the licensee provided excerpts from calculations/analyses for undervoltage relays setpoints (DA-EE-93-006-08), offsite power load flow study (DE-EE-96-068-03), DG steady state loading analysis (DA-EE-098-01 for DG-A, and DA-EE-92-120-01 for DG-B), and DG dynamic loading analysis (DA-EE-92-111-01 for DG-A and DA-EE-92-112-01 for DG-B).

The supplements dated July 24, 2009, and November 23, 2009, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on April 7, 2009 (74 FR 15775).

2.0 REGULATORY EVALUATION

The staff used the following regulatory requirements and guidance documents to review the LAR:

1. In Title 10 of the *Code of Federal Regulations*, Section 50.36 (10 CFR 50.36), "Technical Specifications," the Nuclear Regulatory Commission (NRC) requires that "each applicant for a license authorizing operation of a production or utilization facility shall include in his application proposed technical specifications in accordance with the requirements of this section." Specifically, 10 CFR 50.36(c)(1)(ii)(A) states, "Where a limiting safety system setting is specified for a variable on which a safety limit has been placed, the setting must be so chosen that automatic protective action will correct the abnormal situation before a safety limit is exceeded." Furthermore, 10 CFR 50.36(c)(3) states, "Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions of operation will be met."

2. General Design Criterion (GDC) 13, "Instrumentation and control," of Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," requires that instrumentation be provided to monitor variables and systems and that controls be provided to maintain these variables and systems within prescribed operating ranges.

3. GDC 17, "Electric power systems," requires that an offsite electric power system shall be provided to permit functioning of structures, systems, and components important to safety. The safety function for each system shall be to provide sufficient capacity and capability to assure that (1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences, and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents. The LOP diesel start instrumentation settings and control assures proper operation of safety-related loads as required by GDC 17 of 10 CFR Part 50, Appendix A.

4. GDC 20, "Protection system functions," requires that the protection system be designed to initiate the operation of appropriate systems to ensure that specified acceptable fuel design limits are not exceeded.

5. Regulatory Guide (RG) 1.105, "Setpoints for Safety-Related Instrumentation," Revision 3, describes a method that the NRC staff finds acceptable for use in complying with the NRC's regulations for ensuring that setpoints for safety-related instrumentation are initially within, and will remain within, the TS limits. RG 1.105 endorses Part I of Instrument Society of America (ISA)-S67.04-1994, "Setpoints for Nuclear Safety Instrumentation," which is subject to NRC staff clarifications.

6. In Regulatory Issue Summary (RIS) 2006-17, "NRC Staff Position on the Requirements of 10 CFR 50.36, 'Technical Positions,' regarding Limiting Safety System Settings (LSSS) during Periodic Testing and Calibration of Instrument Channels," dated August 24, 2006 (ADAMS Accession No. ML051810077), the NRC addresses requirements for LSSS that are assessed during the periodic testing and calibration of

instrumentation. RIS 2006-17 discusses issues that could occur during the testing of LSSS and therefore, may have an adverse effect on equipment operability.

7. The letter from Patrick L. Hiland (NRC) to the Nuclear Energy Institute's Setpoint Methods Task Force, "Technical Specification for Addressing Issues Related to Setpoint Allowable Values," dated September 7, 2005 (ADAMS Accession No. ML052500004), addresses the footnotes that should be added to SRs related to setpoint verification surveillance for instrument functions on which a safety limit has been placed and addresses the information that should be included to ensure operability of the instruments following surveillance tests related to instrument setpoints.

8. Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants (NUREG-0800), Branch Technical Position (BTP) 8-6, March 2007 (similar to the previous BTP PSB-1, July 1981) "Adequacy of Station Electric Distribution System Voltages." This BTP states that the TSs should include LCOs, SRs, trip setpoints, and maximum and minimum allowable values for the first level of undervoltage protection (loss of offsite power) relays and the second level (degraded voltage) protection sensors and associated time delay devices.

9. Safety Guide 9, 1971, "Selection of Diesel Generator Capacity for Standby Power Supplies," describes an acceptable basis for the selection of DG sets of sufficient capacity and margin to implement GDC 17.

3.0 TECHNICAL EVALUATION

3.1 Revise Operating Conditions in TS Table 3.3.2-1, Function 1.a:

Proposed TS Change

The proposed change to TS Table 3.3.2-1, Function 1.a, will replace Conditions D and G with Conditions H and K, respectively.

Conditions D, G, H, and K read as follows:

	CONDITION	REQUIRED ACTION		COMPLETION TIME
D.	As required by Required Action A.1 and referenced by Table 3.3.2-1	D.1	Restore channel to OPERABLE status	48 hours
G.	Required Action and associated Completion Time of Condition D, E, or F not met	G.1	Be in MODE 3	6 hours
		AND		
		G.2	Be in MODE 4	12 hours
H.	As required by Required Action A.1 and referenced by Table 3.3.2-1	H.1	Restore channel to OPERABLE status	48 hours

K.	Required Action and associated Completion Time of Condition H, I, or J not met	K.1	Be in MODE 3	6 hours
		AND		
		K.2	Be in MODE 5	36 hours

Staff Evaluation of Proposed Operating Conditions

As shown above, Condition D is identical to Condition H. If one or more functions of TS Table 3.3.2-1 has one inoperable channel (i.e., Action A.1), the inoperable channel must be returned to OPERABLE status within 48 hours. Since the Conditions are identical, the NRC staff finds the proposed replacement of Condition D with Condition H to be administrative and acceptable.

License Amendment No. 85, issued to the Ginna license on September 22, 2004, modified TS Table 3.3.2-1, Function 1.a, Safety Injection Manual Initiation, to include an operability requirement during MODE 4 operation. However, the change did not make a commensurate change to the Required Actions in the event that the Safety Injection Manual Initiation signal was inoperable during MODE 4. Thus, the Required Actions were in error in that they required the Safety Injection Manual Initiation signal to be OPERABLE in MODE 4 but left in place a requirement to proceed to MODE 4 in the event that the signal could not be restored.

The licensee has, therefore, proposed replacing Condition G with Condition K. As shown above, Condition G does not require entry beyond MODE 4. Condition K is the appropriate Required Action which would require entry into MODE 5 if the Safety Injection Manual Initiation signal could not be restored to operability while in MODE 4. This change is also conservative because it places the plant in a lower mode for the applicable condition. Based on these considerations, the NRC staff considers this to be an administrative change and finds the proposed change acceptable.

3.2 LCO 3.3.4 - Revision to the Degraded Voltage Relay and Loss of Voltage Relay Setting Values Specified in SR 3.3.4.2

3.2.1 Background

In the LAR, the licensee stated that there are two channels of LOP DG start instrumentation on each 480 Volt (V) safeguards bus. Each channel contains one loss of voltage relay and one degraded voltage relay. A trip in both channels causes the following actions on the associated safeguards bus:

a. Trip the normal feed breaker from offsite power;
b. Trip the bus-tie breaker to the opposite electrical train (if closed);
c. Shed all bus loads except the containment spray pump, component cooling water pump (if no safety injection signal is present), and safety related motor control centers (MCCs); and
d. Start the associated DG.

The degraded voltage logic is provided on each 480 V safeguards bus to protect engineered safety features (ESF) components from exposure to long periods of reduced voltage conditions which can result in degraded performance. The loss of voltage logic is provided on each 480 V safeguards bus to ensure the DG is started within the time limits assumed in the accident analysis to provide the required electrical power if offsite power is lost.

The degraded voltage relays have inverse operating characteristics such that the lower the bus voltage, the faster the operating time. The loss of voltage relays, have definite time delay characteristics.

3.2.2 Proposed TS Changes

SR 3.3.4.2 requires the following CHANNEL CALIBRATION with LSSS for each 480 V bus:

a. Loss of voltage LSSS ≥ 371.6 V and ≤ 378.0 V with a time delay of ≥ 1.64 seconds and ≤ 2.61 seconds.

b. Degraded voltage LSSS ≥ 419.6 V and ≤ 424.4 V with a time delay of ≥ 30.7 seconds and ≤ 1589 seconds (@ 416.8 V) and ≥ 25.1 seconds and ≤ 494.9 seconds (@ 368 V).

The licensee has proposed to revise SR 3.3.4.2 as follows:

a. Loss of voltage LSSS ≥ 372.0 V and ≤ 374.8 V with a time delay of ≥ 2.13 seconds and ≤ 2.62 seconds.

b. Degraded voltage LSSS ≥ 420.0 V and ≤ 423.6 V with a time delay of ≥ 68.1 seconds and ≤ 125 seconds (@ 420.0 V) and ≥ 71.8 seconds and ≤ 125 seconds (@ 423.6 V).

3.2.3 Staff Evaluation of Calculation Methodology

By License Amendment No. 85 issued on September 22, 2004 (ADAMS Accession No. ML041180293), the NRC approved the methodology used in calculating the LSSS voltage changes and time delays for SR 3.3.4.2. The times currently listed as part of the LSSS values in SR 3.3.4.2 do not provide enough time for the offsite power load tap changer to recover the safeguards bus voltage before degraded voltage relay operation. In August 2007, the licensee performed a calculation, DE-EE-96-068-03, "Offsite Power Load Flow Study." To implement the revised analytical limits established in that calculation, the licensee prepared the calculation DA-EE-93-006-08, "Instrument Performance Evaluation and Setpoint Verification: Undervoltage Relays and Voltmeter on 480V Safeguard Busses."

In calculation DA-EE-93-006-08 for the proposed setpoints, the licensee calculated the total loop uncertainty (TLU) using the square root of the sum of the squares of the independent tolerances and algebraic sum of the dependent tolerances. The licensee calculated the channel calibration acceptance value by using the square root of the sum of the squares of the independent tolerances and used it as the acceptable as-found tolerance around the previous as-left test value. The licensee calculated LSSS values by adding or subtracting the TLUs from the lower and upper analytical limits. The licensee selected the as-left values conservative to the LSSS limits. Thus, for the degraded voltage LSSS calculation in DA-EE-93-006-08, the licensee

calculated the lower value of LSSS to be 105.0 V by adding a TLU of 1.47 V to the lower analytical limit of 103.5 V, and the upper value of LSSS to be 105.9 V by subtracting a TLU of 2.02 V from the upper analytical limit of 108.0 V for the degraded voltage relay. From these two values of LSSS, the licensee selected the as-left tolerance range between 105.2 V and 105.7 V.

In Attachment 4 to the licensee's application dated December 19, 2008, the licensee provided the surveillance test results for instrument channels subjected to SR 3.3.4.2 from March 1999 to October 2006. The NRC staff observed, from these field test data, that the licensee never exceeded the acceptable as-found setpoint value in any case. The staff also reviewed plant procedures which require that Condition Reports be generated whenever calibration tests determine that instrumentation is found to be out-of-tolerance.

Based on the above evaluations, the NRC staff finds that the calculation methodology used to calculate the proposed TS changes to SR 3.3.4.2 and related plant procedures comply with the requirements specified in Section 2.0 of this Safety Evaluation and is, therefore, acceptable.

3.2.4 Staff Evaluation of Proposed Relay Settings

According to the licensee's documents, the LSSS for the loss of voltage relays, and associated time delays, have been chosen based on the following considerations:

a. Actuate the associated DG within 2.75 seconds (with additional 10 seconds for DG start time) as assumed in the accident analysis;

b. Prevent DG actuation on momentary voltage drops associated with starting of ESF components during an accident with offsite power available and during normal operation due to minor system disturbance; and

c. Prevent DG re-sequencing on momentary voltage drops associated with starting of the ESF components during an accident. Therefore, the time delay setting must be greater than the time between the largest assumed voltage drop below the voltage setting and reset value of the trip function.

The LSSS for degraded voltage relays, and associated time delays, have been chosen to prevent motors supplied by the 480 V bus from operating at reduced voltage conditions for long periods of time.

The updated final safety analysis report (UFSAR) Section 8.3.1.2.7.1.c states, "In order to protect Class 1E equipment from unsatisfactory bus voltage, the undervoltage setpoints and time-delay values have been chosen to allow retention of the load-shedding feature even after emergency busses are being supplied from onsite sources."

The licensee, in its letter dated July 24, 2009, stated that calculation DA-EE-93-006-08 (for the undervoltage relay setpoints) was revised due to the discovery that the TSs contained non-conservative statements that would allow calibration of the undervoltage relays outside the analyzed range. The revised settings would ensure the relays do not actuate during recoverable voltage transients when offsite power is available.

In response to the staff's request, the licensee, in its letter dated November 23, 2009, in Attachment 1, provided the following explanation for the undervoltage (UV) relay protection scheme when the loads are fed from onsite emergency DG source or offsite source:

> The 480 volt safeguards bus UV protection contain degraded and loss of voltage relays that are active at all times. Each safeguards bus has its own set of UV protection relays.
>
> When being fed from offsite power, actuation of the bus UV system strips all bus loads, except containment spray, MCC [motor control center] C and D and required downstream MCCs, and component cooling water breakers on buses 14 and 16. The normal bus supply breaker from the offsite power source is tripped. A start signal to the respective diesel generator is initiated with subsequent closing of the diesel generator supply breaker(s) to the bus(es) that experienced the UV. Component cooling water pumps are tripped if a safety injection signal is present and safeguards loads are sequenced on.
>
> When being fed from onsite diesel generators, actuation of the bus UV system strips all bus loads, except containment spray, MCC C and D and required downstream MCCs and component cooling water breakers on buses 14 and 16. The diesel generator supply breakers to the respective safeguards buses are not tripped. If a safety injection signal is present then safeguards loads will be re-sequenced onto their respective bus once voltage recovers above the UV relay reset values; component cooling water pumps will not be in-service. If a safety injection signal is not present then the loads are started upon bus voltage recovery, as required.

The NRC staff reviewed analytical limits for degraded voltage relays and loss-of-voltage relay provided in the excerpt of analysis DA-EE-93-006-08. Difference in source strength between the DGs and the offsite circuits has significant impact on the 480 V bus voltages during dynamic conditions. When the 480 V safeguard busses are supplied from the grid, the voltage drop during the safeguards sequence is not the limiting condition for evaluation of the loss of voltage relays. During approximately the first minute of a loss-of-coolant-accident (LOCA) signal, the generator remains on-line and provides voltage support to the grid. Therefore, to be conservative, the losses-of-voltage relay settings are based on the DG dynamic loading study when the safety-related loads are started from DGs. The degraded voltage relay settings are based on the recovery of voltage profile (after generator trip) at the safety-related busses due to tap changing devices in the upstream system, and with the thermal damage curves of safety-related motors. Based on review of the information provided by the licensee, the staff agrees that the UV relays setpoints meet the criteria stated in the licensee documents to provide adequate protection to the safety-related loads. Therefore, the staff finds the proposed TS setpoints acceptable.

3.3 LCO 3.8.1 – Revision to the Emergency DG Loading Requirement Specified in SR 3.8.1.3

3.3.1 Background

The onsite standby power sources at Ginna consist of two emergency DGs connected to the safeguards buses which provide emergency power in the event all other alternating current (AC)

power is lost. Each DG consists of an ALCO engine coupled to a Westinghouse generator rated 1950 kilo-watt (kW) (continuous rating), 0.8 power factor, 900 rpm, three-phase, 60-cycle, 480 V. In the event of LOP or abnormal conditions where offsite power is tripped as a consequence of bus loss of voltage or degraded voltage, the DGs automatically start and tie to their respective buses. Each DG is sized to start and carry the ESF loads required during worst-case accident loading conditions.

3.3.2 Proposed TS Change

Currently, the SR 3.8.1.3 requires that each DG be synchronized and loaded and operated for ≥ 60 minutes and < 120 minutes at a load ≥ 1950 kW and < 2250 kW, at a frequency of 31 days.

The proposed TS change will revise the minimum load value from ≥ 2025 kW to < 2250 kW.

3.3.3 Staff Evaluation of Proposed DG Load Test Value

The revised minimum load value is based on expected maximum load following a design-basis accident, as determined by the licensee's latest DG steady state loading analysis, which includes minor changes to some loads such as replacement of two 440 V, 250 horsepower motor driven auxiliary feedwater pump motors with 460 V, 300 horsepower motors, and impact of operation of DG at off-nominal frequency and voltage.

According to the DG steady state loading analyses submitted by the licensee, the worst case loading occurs during the injection phase, which has been calculated as 2016 kW for DG A, and 2007 kW for DG B. Based on the review of steady state DG loading analyses, the NRC staff finds the calculated DG loading values as reasonable. Therefore, the proposed minimum load test value of DG as 2025 kW (which envelopes the worst case calculated load values) as proposed in SR 3.8.1.3 is acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (74 FR 15775). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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S. Mazumdar, NRR/EICB

Date: March 10, 2010

March 10, 2010

Mr. John T. Carlin
Vice President - R.E. Ginna Nuclear Power Plant
R.E. Ginna Nuclear Power Plant, LLC
1503 Lake Road
Ontario, NY 14519

SUBJECT: R.E. GINNA NUCLEAR POWER PLANT - AMENDMENT REGARDING CHANGES RELATED TO LIMITING CONDITIONS FOR OPERATION IN TECHNICAL SPECIFICATIONS 3.3.2, 3.3.4, AND 3.8.1 (TAC NO. ME0291)

Dear Mr. Carlin:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 109 to Renewed Facility Operating License No. DPR-18 for the R.E. Ginna Nuclear Power Plant. This amendment is in response to your application dated December 19, 2008, as supplemented by letters dated January 22, July 24, and November 23, 2009.

The amendment modifies the Technical Specifications (TSs) to: (1) correct an error in TS Table 3.3.2-1, "Engineered Safety Feature Actuation System Instrumentation," Function 1.a, to reflect the correct CONDITIONS for applicable Modes 1,2,3, and, 4; (2) revise TS Limiting Condition for Operation 3.3.4 degraded voltage relay and loss of voltage relay Limiting Safety System Setting values to reflect the revised analysis; and (3) revise the load requirement of Surveillance Requirement 3.8.1.3 to reflect values supported by the diesel generator accident loading analyses.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,
/RA/
Douglas V. Pickett, Senior Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-244

Enclosures:
1. Amendment No. 109 to Renewed License No. DPR-18
2. Safety Evaluation

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Amendment No.: ML100261572

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