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

October 17, 2011

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: CLINTON POWER STATION, UNIT NO. 1 - ISSUANCE OF AMENDMENT NO. 197 RE: REQUEST FOR THE REMOVAL OF OPERATING MODE RESTRICTIONS FOR PERFORMING HIGH PRESSURE CORE SPRAY EMERGENCY DIESEL GENERATOR SURVEILLANCE TESTING (TAC NO. ME4949)

Dear Mr. Pacilio:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 197 to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit No. 1. The amendment is in response to your application dated October 28, 2010, as supplemented by letters dated April 8, 2011 and July 1, 2011.

The amendment requested a modification to Technical Specification 3.8.1, "AC Sources Operating," to remove mode restrictions to perform certain Surveillance Requirements for the Division 3 High Pressure Core Spray emergency diesel generator.

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

Sincerely,

Nicholas J. DiFrancesco, Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-461

Enclosures:
1. Amendment No. 197 to NPF-62
2. Safety Evaluation

cc w/encls: Distribution via Listserv

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

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-461

CLINTON POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 197
License No. NPF-62

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Exelon Generation Company, LLC (the licensee), dated October 28, 2010, as supplemented by letters dated April 8, 2011 and July 1, 2011, 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 Facility Operating License No. NPF-62 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 197, are hereby incorporated into this license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Jacob I. Zimmerman, Chief
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications and Facility Operating License

Date of Issuance: October 17, 2011

ATTACHMENT TO LICENSE AMENDMENT NO. 197

FACILITY OPERATING LICENSE NO. NPF-62

DOCKET NO. 50-461

Replace the following pages of the Facility Operating License and 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
License NPF-62 Page 3	License NPF-62 Page 3
TSs 3.8-6 3.8-8 3.8-9 3.8-12 3.8-14	TSs 3.8-6 3.8-8 3.8-9 3.8-12 3.8-14

(4) Exelon Generation Company, pursuant to the Act and to 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;

(5) Exelon Generation Company, 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;

(6) Exelon Generation Company, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility. Mechanical disassembly of the GE14i isotope test assemblies containing Cobalt-60 is not considered separation; and

(7) Exelon Generation Company, pursuant to the Act and 10 CFR Parts 30, to intentionally produce, possess, receive, transfer, and use Cobalt-60.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

Exelon Generation Company is authorized to operate the facility at reactor core power levels not in excess of 3473 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 197, are hereby incorporated into this license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.7	----------NOTE---------- All DG starts may be preceded by an engine prelube period. ---------- Verify each DG starts from standby condition and achieves: a. In ≤ 12 seconds, voltage ≥ 4084 V and frequency ≥ 58.8 Hz; and b. Steady state voltage ≥ 4084 V and ≤ 4580 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.8	----------NOTE---------- This Surveillance shall not be performed in MODE 1 or 2 (not applicable to Division 3 AC sources). However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify automatic and manual transfer of unit power supply from the normal offsite circuit to the alternate offsite circuit.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.11	----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, or 3 (not applicable to the Division 3 DG). However, credit may be taken for unplanned events that satisfy this SR. ----------	
	Verify on an actual or simulated loss of offsite power signal:	In accordance with the Surveillance Frequency Control Program
	a. De-energization of emergency buses;	
	b. Load shedding from emergency buses for Divisions 1 and 2; and	
	c. DG auto-starts from standby condition and:	
	1. energizes permanently connected loads in $\leq$ 12 seconds,	
	2. energizes auto-connected shutdown loads,	
	3. maintains steady state voltage $\geq$ 4084 V and $\leq$ 4580 V,	
	4. maintains steady state frequency $\geq$ 58.8 Hz and $\leq$ 61.2 Hz, and	
	5. supplies permanently connected and auto-connected shutdown loads for $\geq$ 5 minutes.	

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.12	----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1 or 2 (not applicable to the Division 3 DG). However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each DG auto-starts from standby condition and: a. In ≤ 12 seconds after auto-start and during tests, achieves voltage ≥ 4084 V and frequency ≥ 58.8 Hz; b. Achieves steady state voltage ≥ 4084 V and ≤ 4580 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz; and c. Operates for ≥ 5 minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.13	----------NOTE---------- Credit may be taken for unplanned events that satisfy this SR. ---------- Verify each DG's automatic trips are bypassed on an actual or simulated ECCS initiation signal except: a. Engine overspeed; b. Generator differential current; and c. Overcrank for DG 1A and DG 1B.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.16	----------NOTE---------- This Surveillance shall not be performed in MODE 1, 2, or 3 (not applicable to the Division 3 DG). However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify each DG: a. Synchronizes with offsite power source while loaded with emergency loads upon a simulated restoration of offsite power; b. Transfers loads to offsite power source; and c. Returns to ready-to-load operation.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.17	----------NOTE---------- Credit may be taken for unplanned events that satisfy this SR. ---------- Verify, with a DG operating in test mode and connected to its bus, an actual or simulated ECCS initiation signal overrides the test mode by: a. Returning DG to ready-to-load operation; and b. Automatically energizing the emergency loads from offsite power.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.19	----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, or 3 (not applicable to the Division 3 DG). However, 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 ECCS initiation signal: a. De-energization of emergency buses; b. Load shedding from emergency buses for Divisions 1 and 2; and c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in ≤ 12 seconds, 2. energizes auto-connected emergency loads, 3. achieves steady state voltage ≥ 4084 V and ≤ 4580 V, 4. achieves steady state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and 5. supplies permanently connected and auto-connected emergency loads for ≥ 5 minutes.	In accordance with the Surveillance Frequency Control Program

(continued)

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 197 TO FACILITY OPERATING LICENSE NO. NPF-62

EXELON GENERATION COMPANY, LLC

CLINTON POWER STATION, UNIT NO. 1

DOCKET NO. 50-461

1.0 INTRODUCTION

By letter to the U.S. Nuclear Regulatory Commission (NRC, the Commission) dated October 28, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML103020155), as supplemented by letters dated April 8, 2011 and July 1, 2011 (ADAMS Accession Nos. ML111010108 and ML111822817, respectively), Exelon Generation Company, LLC (the licensee) submitted a license amendment request (LAR) for changes to the technical specifications (TSs) for Clinton Power Station (CPS), Unit No. 1. The proposed changes would remove mode restrictions to perform certain surveillance requirements (SRs) for the Division 3 high-pressure core spray (HPCS) emergency diesel generator (DG).

The supplemental letters dated April 8, 2011 and July 1, 2011 (References 2 and 3) contained clarifying information and did not change the NRC staff's initial proposed finding of no significant hazards consideration.

2.0 REGULATORY EVALUATION

The NRC requirements and review criteria that the staff considered to be most applicable include:

- Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.36(c), requires that the TS include (1) safety limits, limiting safety system settings, and limiting control settings, (2) limiting conditions for operations (LCOs), (3) SRs, (4) design features, and (5) administrative controls.

- 10 CFR, Appendix A of Part 50, General Design Criterion (GDC) 17, "Electric Power Systems," requires, in part, that "An onsite electric power system and an offsite electric power system shall be provided to permit functioning of structures, systems, and components important to safety . . . The onsite electric power supplies, including the batteries, and the onsite electric distribution system, shall have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure . . . ."

- GDC 18, "Inspection and testing of electric power systems," requires, in part, that "Electric power systems important to safety shall be designed to permit appropriate periodic inspection and testing of important areas and features...."

3.0 TECHNICAL EVALUATION

System Description

The CPS, Unit No. 1, HPCS power system is described in updated safety analysis report (USAR) Section 8.3.1.1.2.1. The CPS, Unit No. 1, safety-related alternating current (AC) distribution system supplies electrical power to three divisional load groups (Divisions 1, 2, and 3), with each division powered by an independent Class 1E 4.16 kilo Volt (kV) emergency bus. The emergency buses for Divisions 1 and 2 each have a separate and independent offsite source of power. The Division 3 emergency bus can be supplied from either of the two independent offsite sources.

The onsite standby power source for each 4.16 kV emergency bus is a dedicated DG. A DG starts automatically in the event of a loss-of-coolant accident (LOCA) signal or on Class 1E 4.16 kV emergency bus degraded voltage or undervoltage signal. After the DG has started, it automatically ties to its respective 4.16 kV emergency bus after offsite power is tripped as a consequence of emergency bus undervoltage or degraded voltage, independent of, or coincident with, a LOCA signal. The DGs also start and operate in the standby mode without tying to the emergency buses on a LOCA signal alone. In the event of a loss of offsite power (LOOP), the engineered safety featured electrical loads are automatically connected to the DGs in sufficient time to provide for safe reactor shutdown and to mitigate the consequences of a design basis accident such as a LOCA. The Division 3 DG provides all required power for the startup and operation of the HPCS system.

In its April 8, 2011 response to the NRC staff's request for additional information related to safe operation of safety-related motors when the Division 3 DG is delivering maximum voltage in accordance with TS Section 3.8.1, the licensee stated that the plant specific Division 3 DG steady-state voltage is maintained and controlled by plant administrative controls. The licensee's administrative controls values are more restrictive than those currently specified in TS Section 3.8.1 and are based on the licensee's design basis calculations and analyses to ensure that the all safety-related equipment including motors are operated without any damage. In response to the staff's question on TS 3.8.1 Division 3 DG non-conservative voltage limits, the licensee re-evaluated DG voltage limits in TS 3.8.1 and determined that the upper limit of the DG voltage should be 4300 volts.

Consequently, in a supplemental letter dated July 1, 2011, the licensee provided additional information to clarify its April 8, 2011, letter response to NRC staff Question Number 4 and stated that their corrective actions included submitting an LAR to align TS 3.8.1 Division 3 DG voltage limits with the design steady-state analysis values. The staff verified that the licensee has submitted a new LAR by letter dated August 15, 2011 (ADAMS Accession No. ML112280256), to revise the TS DG voltage limits for all DGs including the Division 3 DG with limits consistent with design steady-state analysis values. The staff finds that the licensee's

implementation of the administrative controls and submittal of an LAR to revise voltage limits for TS 3.8.1 for the Division 3 DG provides reasonable assurance that the safety-related equipment powered by the Division 3 DG will be operated without any damage.

3.1 TS Changes

In the LAR, the licensee stated that provisions are made for manual paralleling with offsite power sources to load the Division 3 DG during the test mode. If a LOOP occurs, a parallel-loaded Division 3 DG would attempt to supply power to the offsite test loads through the closed feed breakers. A set of three directional overcurrent relays trip the offsite power feed breakers if the overcurrent setting exceeds a preset value. However, the DG continues to power the Division 3 emergency bus. If a LOCA signal occurs while the Division 3 DG is running in parallel with the offsite power source, the DG feed breaker automatically trips, the HPCS pump motor and associated HPCS loads automatically start, with the Division 3 emergency bus being powered from the offsite power source. According to Section 8.3.1.2.2 of the CPS, Unit 1, USAR, the Division 3 DG design includes override capability to ensure automatic switchover from the test mode to ready-to-load operation upon receipt of a LOCA initiation signal consistent with the Institutes of Electrical and Electronic Engineers (IEEE) Standard 308, "Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Stations," and IEEE Standard 387, "Standard Criteria for Diesel Generator Units Applied as Standby Power Supplies for Nuclear Power Generating Stations." However, the Division 3 DG is equipped with a mechanical governor that operates only in a droop mode. Normally, the droop setting is set to zero, but during testing (i.e., while the DG is in the test mode) a non-zero droop setting is utilized to support paralleling the DG with the offsite power source. Under such conditions, the droop mode may be set such that if a LOCA initiation signal was received concurrent with no offsite power available to the Division 3 bus, operator action may be required to reset the governor to ensure bus frequency is within required limits when the DG alone is supplying power to the bus.

In Attachment 1 of the LAR, the licensee stated that the Operators for the CPS, Unit No. 1, declare the Division 3 DG inoperable during the surveillance testing due to the DG governor speed droop being set at its midpoint during tests. The licensee also stated that the actual time needed to perform these SRs is approximately 16 hours and, therefore, Division 3 DG will be inoperable for approximately 16 hours. The existing CPS TS LCO 3.5.1.B allows up to 14 days of inoperability for the HPCS system and consequently TS LCO 3.8.1 Applicability Note allows 14 days of inoperability for the Division 3 AC power source [DG]. Based on the above, the NRC staff finds that the licensee's estimated actual time to perform these SRs is within the allowed TS LCO time, and therefore acceptable.

The HPCS system is designed to allow all active components to be tested during normal plant operations. The system has a full-flow test line to the suppression pool and reactor core isolation cooling storage tank. Additionally, the HPCS pump is provided with a minimum flow bypass line to the suppression pool. These features allow system testing without discharging into the reactor vessel.

The NRC staff reviewed the licensee's evaluations for the following transient scenarios during testing: (1) Degraded Voltage conditions, (2) LOOP condition, (3) LOCA condition, (4) Administrative Controls for Online Maintenance, and (5) Online Testing versus Outage Testing. As a result of their review, the NRC staff finds that the licensee's evaluation

demonstrated the following: (1) CPS, Unit No. 1, electrical distribution design would allow Division 3 DG to remain connected to its bus, and isolated from offsite power, in the event the grid voltage degrades to a value which results in the Division 3 DG bus voltage above the degraded voltage relay set point, (2) No damage is expected to occur to the Division 3 DG in this scenario and would remain capable of performing its specified safety function during a LOOP event, (3) Division 3 DG will remain in a ready-to-load condition and would be able to perform its safety functions during LOCA condition, and (4) licensee has provided adequate provisions in the plant administrative control procedures to protect other division DGs to ensure their availability.

Based on the above evaluation, the NRC staff concludes that no adverse conditions will be introduced during this testing in the proposed manner and the Division 3 DG will be available to perform its safety function during the above transient.

SR 3.8.1.8

SR 3.8.1.8 requires verification of the transfer of unit power supply from the normal to the alternate offsite circuit in both automatic and manual modes for Division 3. SR 3.8.1.8 also requires verification of the automatic transfer from the normal to the alternate offsite circuit (i.e., reserve auxiliary transformer (RAT) B to the emergency reserve auxiliary transformer (ERAT) is limited to Bus 1C1, and is accomplished by simulating a loss of RAT B, verifying that the main-feed breaker opens, and that the Bus 1C1 reserve feed breaker closes. Specifically, automatic transfer from the normal offsite source to the alternate offsite source for Division 3 is accomplished by tripping the Bus 1C1 main feed breaker, verifying that the Bus 1C1 main feed breaker opens and that the Bus 1C1 reserve feed breaker closes, and energizes the 1C1 4.16 kV Bus. Currently, this SR contains a Note that prohibits surveillance performance in Modes 1 or 2. The TS Bases state that the reason for this Note is that, during operation with the reactor critical performance of this SR could cause perturbations to the electrical distribution systems that could challenge continued steady-state operation and, as a result, plant safety systems. Based on its review of the LAR, the NRC staff finds that performing this SR on the Division 3 DG will have minimal impact on the safe operation of CPS, Unit No. 1, because RAT B and ERAT ratings would not be exceeded due to operation of Division 3 DG. Since the Division 3 system is a stand-alone system, with a dedicated DG and independent electrical distribution system, the staff finds that performing this SR on the Division 3 DG will not affect the operation of the other two safety-related electrical divisions.

Based on the above, the NRC staff finds that the licensee has adequately demonstrated that performing SR 3.8.1.8 for the Division 3 DG during any Mode of operation will not cause perturbations to the electrical distribution or adversely affect continued safe operation of CPS, Unit No. 1. Therefore, the staff finds the proposed change acceptable.

SR 3.8.1.11

SR 3.8.1.11 requires verification that the Division 3 DG automatically starts from the standby condition on an actual or simulated LOOP signal energizes permanently connected loads in $\leq$ 12 seconds, achieves the required voltage and frequency, and supplies permanently connected and auto-connected shutdown loads for $\geq$ 5 minutes. The CPS, Unit No. 1, design for the Division 3 DG does not feature automatic sequencing of loads. Currently, this SR contains a Note that prohibits performance in Modes 1, 2, or 3.

As discussed in the Note to the Applicability requirements for TS 3.8.1, the Division 3 AC electrical power system is not required to be operable when the HPCS system is inoperable and the Division 3 power system is an independent electrical distribution system with a dedicated DG. Division 3 loads, such as the Division 3 Source Range Monitor and Reactor Protection System isolation features, are supported by a battery that is designed to carry these loads for four hours. Given the small duration of time (approximately 16 hours compared to the TS allowed time of 14 days for an inoperable HPCS system) the offsite source of power to the Division 3 emergency bus is disconnected when performing this SR for Division 3 and that the entire HPCS system is considered inoperable when the test is performed, the staff finds that performing SR 3.8.1.11 for the Division 3 DG during any Mode of operation will not adversely affect continued safe operation of CPS, Unit No. 1. Furthermore, the NRC staff finds that since the simulated LOOP signal is generated only at the Division 3 switchgear it will not affect the other two safety-related electrical divisions or their associated loads.

Based on the above, the NRC staff finds that the licensee has adequately demonstrated that performing SR 3.8.1.11 for the Division 3 DG during any Mode of operation will not cause perturbations to the electrical distribution or adversely affect continued safe operation of CPS, Unit No. 1. Therefore, the staff finds the proposed change acceptable.

SR 3.8.1.12

SR 3.8.1.12 requires verification that the Division 3 DG automatically starts from the standby condition on an actual or simulated emergency core cooling system (ECCS) initiation signal, achieves the required voltage and frequency within the specified time, and operates for ≥ 5 minutes. Currently, this SR contains a Note that prohibits performance in Modes 1 or 2. The TS Bases state the reason for the Note is that performing the surveillance could cause perturbations to the electrical distribution system that could challenge continued steady state operation and, as a result, plant safety systems. As mentioned previously, the Division 3 HPCS system is an independent system with a dedicated DG and independent electrical distribution system. SR 3.8.1.12 is performed by inserting an ECCS initiation signal into the Division 3 control logic. With the ECCS initiation signal present, the Division 3 DG starts and runs unloaded (generator output breaker is open) for ≥ 5 minutes while performance parameters (voltage and frequency) are verified. According to the licensee, the HPCS pump start is manually overridden by placing the pump control switch in pull-to-lock, and opening of the motor-operated injection valve is prevented by verifying the valve is closed and de-energized. The licensee takes these steps to prevent an actual discharge of water into the reactor vessel by the HPCS system, which could cause unwanted effects on reactor vessel water level. Similar steps would likewise be taken when performing this test online to preclude unwanted effects on reactor vessel water level and core reactivity due to a HPCS system injection. Following the test, restoration of all safety-related functions, including restoration of the HPCS system to operable status, are independently verified by CPS, Unit No. 1 staff. When performing this SR for Division 3, the simulated ECCS initiation signal is generated only in the HPCS logic and does not affect the other two safety-related electrical divisions. Therefore, performing SR 3.8.1.12 for the Division 3 DG, whether shutdown or online, affects only the HPCS system.

Based on the above, the NRC staff finds that the licensee has adequately demonstrated that performing SR 3.8.1.12 for the Division 3 DG during any Mode of operation will not cause perturbations to the electrical distribution or adversely affect continued safe operation of CPS, Unit No. 1. Therefore, the staff finds the proposed change acceptable.

SR 3.8.1.16

SR 3.8.1.16 requires verification that the Division 3 DG can be synchronized with the offsite power source while loaded with emergency loads, and upon a simulated restoration of offsite power, all loads are transferred to offsite power and the DG returns to ready-to-load operation. Currently, this SR contains a Note that prohibits performance in Modes 1, 2, or 3. The TS Bases state the reason for the Note is that performing the surveillance would remove a required offsite circuit from service, perturb the electrical distribution system, and challenge plant safety systems.

Given that the Division 3 HPCS system is a stand-alone system with a dedicated DG and independent electrical distribution system, the NRC staff finds that performing this SR on the Division 3 HPCS DG will have a minimal impact on safety-related plant equipment or normal plant operation. Furthermore, the licensee noted that results from testing performed during shutdown conditions have shown that the required bus voltage parameters stay within expected limits and no unexpected actions regarding load transfer sequences have occurred. Based on this operating experience, the NRC staff finds that conducting this test online will be no more challenging to plant safety systems than performance during shutdown conditions. Additionally, the offsite power source for the Division 3 4.16 kV emergency bus during the test is the RAT B or ERAT regardless of whether the test is performed online or during shutdown conditions. Since the size of the loads associated with the HPCS system are relatively small, the staff finds that there is minimal potential for creating an offsite power supply perturbation when shifting the load between the Division 3 DG and the offsite power source.

Based on the above, the NRC staff finds that the licensee has adequately demonstrated that performing SR 3.8.1.16 for the Division 3 HPCS DG during any Mode of operation will not cause perturbations to the electrical distribution or adversely affect continued safe operation of CPS, Unit No. 1. Therefore, the staff finds the proposed change acceptable.

SR 3.8.1.19

SR 3.8.1.19 requires verification that the Division 3 DG automatically starts from the standby condition on an actual or simulated LOOP signal in conjunction with an actual or simulated ECCS initiation signal, achieves the required voltage and frequency within the specified time, and supplies permanently connected loads for $\geq$ 5 minutes. Currently, this SR contains a Note that prohibits performance in Modes 1, 2, or 3. The TS Bases state the reason for the Note is that performing the surveillance would remove a required offsite circuit from service, perturb the electrical distribution system, and challenge plant safety systems.

The licensee noted that no configuration change is introduced by testing in the proposed manner that would challenge the ratings of RAT B or the ERAT when performing this SR for Division 3. The NRC staff verified that the combined LOCA loading of all three 4.16 kV buses is well within the capabilities of the RAT B and ERAT. Since the size of the loads associated with the HPCS system is relatively small compared to the ratings of the RAT B and ERAT, the staff finds that there is minimal potential for this testing to create an offsite power supply perturbation when the Division 3 electrical bus is de-energized.

The HPCS system has a full-flow suction line and a return line to both the suppression pool and the reactor coolant isolation cooling storage tank, and an automatically actuated minimum flow

line to the suppression pool. These features allow testing of the system online without discharging into the reactor vessel while providing protection of the pump from overheating. Since the Division 3 HPCS system is a stand-alone system with a dedicated DG and independent electrical distribution system, the staff finds that HPCS system testing can be performed without impacting other divisional safety systems. The simulated LOOP and ECCS initiation signals during tests associated with this SR for Division 3 affect only the HPCS system and do not affect the other two safety-related electrical divisions.

Based on the above, the NRC staff finds that the licensee has adequately demonstrated that performing SR 3.8.1.19 for the Division 3 DG during any Mode of operation will not cause perturbations to the electrical distribution system or adversely affect continued safe operation of CPS Unit No. 1. Therefore, the staff finds the proposed change acceptable.

3.2 Conclusion

The NRC staff reviewed the licensee's proposed changes to SRs 3.8.1.8, 3.8.1.11, 3.8.1.12, 3.8.1.16, and 3.8.1.19 for the Division 3 HPCS DG. Based on the above evaluation, the staff finds the proposed changes to remove the Mode restrictions from SRs 3.8.1.8, 3.8.1.11, 3.8.1.12, 3.8.1.16, and 3.8.1.19 for the CPS, Unit No. 1, Division 3 HPCS DG, provides reasonable assurance of the continued availability of the required electrical power to shut down the reactor and to maintain the reactor in a safe condition after an anticipated operational occurrence. Furthermore, the staff concludes that the proposed TS changes are in accordance with 10 CFR 50.36(c) and meet the intent of GDCs 17 and 18. Therefore, the staff finds the proposed changes acceptable.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes requirements with respect to installation or use of a facility's components located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve 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 amendments involve no significant hazards consideration, and there has been no public comment on such finding (76 FR 4385; January 25, 2011). Accordingly, the amendments meet 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 amendments.

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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. Letter from J. L. Hansen (Exelon) to NRC, "License Amendment Request to Remove Operating Mode Restrictions for Performing Division 3 AC Sources Surveillance Testing," dated October 28, 2010 (ADAMS Accession No. ML103020155).

2. Letter from J. L. Hansen (Exelon) to NRC, "Additional Information Related to License Amendment Request to Remove Operating Mode Restrictions for Performing Division 3 AC Sources Surveillance Testing," dated April 8, 2011 (ADAMS Accession No. ML111010108).

3. Letter from J. L. Hansen (Exelon) to NRC, "Supplemental Information Related to License Amendment Request to Remove Operating Mode Restrictions for Performing Division 3 AC Sources Surveillance Testing," dated July 1, 2011 (ADAMS Accession No. ML111822817).

4. Letter from J. L. Hansen (Exelon) to NRC, "License Amendment Request to Modify Technical Specifications Section 3.8.1, "AC Sources - Operating," dated August 15, 2011 (ADAMS Accession No. ML112280256).

Principal Contributor: Prem Sahay

Date of issuance: October 17, 2011

October 17, 2011

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: CLINTON POWER STATION, UNIT NO. 1 - ISSUANCE OF AMENDMENT NO. 197 RE: REQUEST FOR THE REMOVAL OF OPERATING MODE RESTRICTIONS FOR PERFORMING HIGH PRESSURE CORE SPRAY EMERGENCY DIESEL GENERATOR SURVEILLANCE TESTING (TAC NO. ME4949)

Dear Mr. Pacilio:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 197 to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit No. 1. The amendment is in response to your application dated October 28, 2010, as supplemented by letters dated April 8, 2011 and July 1, 2011.

The amendment requested a modification to Technical Specification 3.8.1, "AC Sources Operating," to remove mode restrictions to perform certain Surveillance Requirements for the Division 3 High Pressure Core Spray emergency diesel generator.

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

Sincerely,
/RA/
Nicholas J. DiFrancesco, Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-461

Enclosures:
1. Amendment No. 197 to NPF-62
2. Safety Evaluation

cc w/encls: Distribution via Listserv
DISTRIBUTION:

PUBLIC	LPL3-2 R/F	RidsOgcRp Resource
RidsNrrLASRohrer Resource	RidsNrrDirsItsb Resource	RidsNrrPMClinton Resource
RidsNrrDorlLpl3-2 Resource	RidsNrrDorlDpr Resource	RidsNrrRgn3MailCenter Resource
RidsAcrsAcnw_MailCTR Resource		

ADAMS Accession No. ML112580495 NRR-058 *concurred via e-mail

OFFICE	LPL3-2/PM	LPL3-2/PM	LPL3-2/LA	DSS/STSB	OGC(NLO w/comment)	LPL3-2/BC
NAME	BHarris	NDifrancesco*	SRohrer(BTully for)	RElliott	BHarris	JZimmerman
DATE	10/14/11	10/14/11	10/14/11	10/10/11	10/04/11	10/17/11