

March 28, 2002

Mr. Oliver D. Kingsley, President
and Chief Nuclear Officer
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, Illinois 60555

SUBJECT: CLINTON POWER STATION, UNIT 1 - ISSUANCE OF AMENDMENT
(TAC NO. MB2975)

Dear Mr. Kingsley:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 146 to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit 1. The amendment is in response to the application from AmerGen Energy Company, LLC, dated September 17, 2001.

The amendment revises the test frequency for the containment spray nozzles from "once per 10 years" to "following activities that could result in nozzle blockage."

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/

Jon B. Hopkins, Senior Project Manager, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-461

Enclosures: 1. Amendment No. 146 to NPF-62
2. Safety Evaluation

cc w/encls: See next page

March 28, 2002

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OFFICE	PM:LPD3-2	LA:LPD3-2	OGC	SC:LPD3-2
NAME	JHopkins	THarris	SUttal nlo	AMendiola
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OFFICIAL RECORD COPY

Clinton Power Station, Unit 1

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Clinton Power Station, Unit 1

- 2 -

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AMERGEN ENERGY COMPANY, LLC

DOCKET NO. 50-461

CLINTON POWER STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 146
License No. NPF-62

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by AmerGen Energy Company, LLC (the licensee), dated September 17, 2001, 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. 146 are hereby incorporated into this license. AmerGen Energy Company, LLC 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 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Anthony J. Mendiola, Chief, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: March 28, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 146

FACILITY OPERATING LICENSE NO. NPF-62

DOCKET NO. 50-461

Replace the following page of the Appendix "A" Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Remove Pages

3.6-25

Insert Pages

3.6-25

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 146 TO FACILITY OPERATING LICENSE NO. NPF-62

AMERGEN ENERGY COMPANY, LLC

CLINTON POWER STATION, UNIT 1

DOCKET NO. 50-461

1.0 INTRODUCTION

By letter dated September 17, 2001, AmerGen Energy Company, LLC (the licensee), requested a change to the Technical Specifications (TS) for Clinton Power Station (CPS). The change will revise the testing frequency for the containment spray nozzles as specified in TS Section 3.6.1.7, "Residual Heat Removal (RHR) Containment Spray System," Surveillance Requirement (SR) 3.6.1.7.4. The licensee proposes to revise the testing frequency for the containment spray nozzles from "once per 10 years" to "following activities that could result in nozzle blockage."

2.0 BACKGROUND

In accordance with NUREG-1434, "Improved Standard Technical Specifications for BWR/6," containment spray nozzle flow surveillance should be performed once every 10 years. The licensee stated in their letter dated September 17, 2001, that the containment spray nozzles are Spray Engineering Company's Model 1713A nozzles, which are corrosion-resistant, and are threaded into the containment spray headers. Previous testing has verified that the nozzles are not blocked. The initial preoperational test was conducted in August 1986, the results indicated that blockage did not exist. The test used compressed air and streamers to detect air flow through each nozzle. Additionally, containment spray nozzle tests following preoperational testing were conducted in November and December 1990 (Division 1 and 2 respectively). Those tests also confirmed the absence of blockage.

3.0 EVALUATION

The CPS containment spray system will function, by automatic or manual initiation, to condense steam to prevent over-pressurization of the containment. The containment spray system consists of two redundant subsystems, each with its own full capacity spray header. Each subsystem is supplied from a separate redundant RHR subsystem.

CPS has two redundant, 100 percent capacity RHR containment spray subsystems. Each subsystem consists of a suction line from the suppression pool, an RHR pump, a heat exchanger, an isolation valve, and two spray headers. The two containment spray headers for each subsystem are located inside the primary containment at two elevations, outside the drywell, and above the refueling floor. On the 'A' Train, the header at the upper elevation consists of 63 equally-spaced spray nozzles and the header at the lower elevation consists of 186 equally-spaced spray nozzles. On the 'B' Train, the upper elevation header has 64 equally-spaced spray nozzles and the lower elevation header consists of 187 equally-spaced spray nozzles.

As indicated above, the containment spray nozzles are Spray Engineering Company's Model 1713A nozzles. They are corrosion-resistant, and are threaded into the containment spray headers. The nozzles are designed to atomize and evenly distribute water droplets to the containment atmosphere for the purpose of removing heat and reducing pressure following an accident. The spray headers are maintained dry and are isolated from the water in the RHR system by a single motor-operated valve in each header. The licensee stated that previous testing has verified that the nozzles are not blocked.

NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements," (May 1992) reported on an Nuclear Regulatory Commission (NRC) staff review of industry experience which indicated that containment spray systems of similar design are highly reliable and not subject to plugging after testing following construction. The staff reviewed industry experience and found that, in general, once tested after construction, containment spray systems have not been subject to blockage. There have been several exceptions identified in containment spray and fire protection systems in which water leakage resulted in corrosion which resulted in some, but not complete, blockage. At CPS it is not expected that corrosion or any other mechanism would cause obstruction of the nozzles in the future because (1) the temperature of the containment spray header is maintained near ambient conditions at all times, (2) the air in the containment does not contain large amounts of contaminants, and (3) the containment spray headers are maintained dry and isolated from water by a normally closed isolation valve that is subject to containment leakage testing.

In addition, the licensee stated that the current foreign material exclusion (FME) program requires that any breaches of the system boundaries during maintenance activities be appropriately protected from the intrusion of foreign material. This program normally includes, but is not limited to, covers for open pipes, in-progress and closeout inspections, and accounting for tools and materials during work performance. The FME program provides guidelines that establish cleanliness requirements and accounting for material, tools and parts to preclude the introduction of foreign materials into systems or components during maintenance, modification, test or inspection activities. The program requires supervision and management involvement if FME integrity is lost or could not be assured and that a condition report be written if an item cannot be found or retrieved.

The licensee stated that normal plant operation and maintenance practices at CPS are not expected to trigger the surveillance requirement as proposed. Only an unanticipated circumstance would initiate this surveillance, such as an inadvertent spray actuation, a major configuration change, or a loss of foreign material control when working with the affected boundary of the system. CPS will perform an evaluation to determine whether a containment spray nozzle test would be required to ensure the nozzles remain unobstructed.

Based on its review of the information provided by the licensee, including information in the CPS updated safety analysis report, the NRC staff concludes that the design of the CPS containment spray system and the licensee's FME program which requires that any breaches of system boundaries during maintenance activities be appropriately protected from intrusion of foreign material, provide reasonable assurance that the potential for nozzle obstruction is acceptably low. Therefore, the staff finds that the proposed amendment is 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

This 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 or changes a surveillance requirement. 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 (66 FR 52796). 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 staff 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.

Principal Contributor: H. Walker

Date: March 28, 2002