

AmerGen Energy Company, LLC
Clinton Power Station
R.R. 3 Box 228
Clinton, IL 61727-9351

RS-03-164

August 19, 2003

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Clinton Power Station, Unit 1
Facility Operating License No. NPF-62
NRC Docket No. 50-461

Subject: Supplemental Information Supporting the License Amendment Request to Permit Inclined Fuel Transfer System Blind Flange Removal During Power Operations

- References:**
- (1) Letter from J. M. Heffley (AmerGen Energy Company, LLC) to U.S. NRC, "Request for License Amendment to Technical Specifications to Permit Inclined Fuel Transfer System Blind Flange Removal During Power Operations," dated April 2, 2001
 - (2) Letter from K. R. Jury (Exelon Generation Company, LLC) to U.S. NRC, "Response to Request for Additional Information Regarding Risk Aspects of Inclined Fuel Transfer System License Amendment Request for Clinton Power Station," dated January 15, 2002
 - (3) Letter from T. W. Simpkin (Exelon Generation Company, LLC) to U. S. NRC, "Additional Information Supporting the License Amendment Request to Permit Inclined Fuel Transfer System Blind Flange Removal During Power Operations," dated August 23, 2002
 - (4) Letter from K. R. Jury (AmerGen Energy Company, LLC) to U. S. NRC, "Supplemental Information Supporting the License Amendment Request to Permit Inclined Fuel Transfer Blind Flange Removal During Power Operations," dated March 28, 2003

In Reference 1, AmerGen Energy Company (AmerGen), LLC submitted a request for changes to the Facility Operating License No. NPF-62 and Appendix A to the Facility Operating License, Technical Specifications (TS), for Clinton Power Station (CPS) to permit Inclined Fuel Transfer System (IFTS) blind flange removal during power operations. The proposed changes in Reference 1 requested the addition of a conditional note before the Actions for TS Section 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)," which will identify the controls

A001

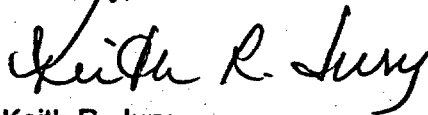
required for allowing the IFTS blind flange to be removed during Modes 1, 2, or 3. Additional information concerning the risk aspects of the proposed change was provided in Reference 2. The NRC requested additional follow-up information regarding the information provided in the References 1 and 2. Reference 3 provided the requested information.

In conference calls on September 5, 2002, and February 5, 2003, the NRC requested supplemental information in support of their review of this request. Reference 4 provided the requested information.

On July 31, 2003, representatives from AmerGen and the NRC staff discussed portions of the information provided in the previous submittals in a conference call. As a result of these discussions, it was determined that additional clarifications were needed to be submitted. The requested information is included as an attachment to this letter.

Should you have any questions related to this information, please contact Mr. Timothy A. Byam at (630) 657-2804.

Sincerely,



Keith R. Jury
Director – Licensing and Regulatory Affairs
Mid-West Regional Operating Group
AmerGen Energy Company, LLC

Attachments:

1. Affidavit
2. Supplemental Information Supporting the License Amendment Request to Permit Inclined Fuel Transfer System Blind Flange Removal During Power Operations

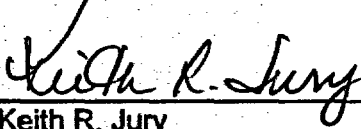
cc: Regional Administrator – NRC Region III
 NRC Project Manager, NRR – Clinton Power Station
 NRC Senior Resident Inspector – Clinton Power Station
 Office of Nuclear Facility Safety – Illinois Department of Nuclear Safety

STATE OF ILLINOIS)
COUNTY OF DUPAGE)
IN THE MATTER OF)
AMERGEN ENERGY COMPANY, LLC) Docket Number
CLINTON POWER STATION, UNIT 1) 50-461

**SUBJECT: Supplemental Information Supporting the License Amendment
Request to Permit Inclined Fuel Transfer System Blind Flange
Removal During Power Operations**

AFFIDAVIT

I affirm that the content of this transmittal is true and correct to the best of my knowledge, information and belief.

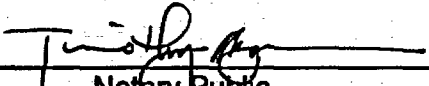


Keith R. Jury
Director – Licensing and Regulatory Affairs
Mid-West Regional Operating Group
AmerGen Energy Company, LLC

Subscribed and sworn to before me, a Notary Public in and

for the State above named, this 19th day of

August, 2003.


Notary Public



ATTACHMENT

Supplemental Information Supporting the License Amendment Request to Permit Inclined Fuel Transfer System Blind Flange Removal During Power Operations

In a conference call held on July 31, 2003, representatives from AmerGen Energy Company (AmerGen), LLC and the NRC staff discussed portions of the information provided in previous submittals. As a result of these discussions, it was determined that additional clarifications were needed to be submitted. The following information provides the additional clarification requested.

Inclined Fuel Transfer System (IFTS) Carriage Storage During Extended Periods When Not in Use with the IFTS Blind Flange Removed

The NRC requested clarification as to the location of the Inclined Fuel Transfer System carriage when the IFTS blind flange has been removed and during periods when the IFTS system is not being used. There are two locations that would be used. The first position is located in the middle to lower portion of the transfer tube that would be used during shift changes or between consecutive days of operation. The position is the "at the fill/drain position." Leaving the carriage in this position will allow the IFTS upper flap valve, the IFTS fill valve (1F42-F001), the lower gate valve (1F42-F004), and both drain line valves (1F42-F003 and 1F42-F301) to be closed. The second position is located inside the containment building at the upper containment pool upender location. During extended periods of time with the IFTS carriage not being used (e.g., multiple days of inactivity, such as over a weekend), it is AmerGen's intent to store the IFTS carriage at this upper pool location with the IFTS manual gate valve (1F42-F002) closed. Closing the 1F42-F002 during extended periods of inactivity provides additional defense-in-depth. The Clinton Power Station (CPS) procedure 3702.01, "Inclined Fuel Transfer System," will be revised to require the 1F42-F002 to be closed during extended periods of inactivity.

Clarifications Regarding Containment Ultimate Pressure Capacity During IFTS Blind Flange Removal

The NRC requested clarification regarding the discussions of the assessments made in previous submittals on the subject of containment ultimate pressure capacity. While it is acknowledged that the design basis containment ultimate pressure capacity is 63 pounds per square inch gauge (psig), which corresponds to the ultimate capacity of the equipment hatch as reported in Updated Safety Analysis Report Section 3.8.1.4.8, the containment fragility analysis contained in the January 15, 2002 submittal determined that the probability of containment failure would exceed 0.5 at approximately 94 psig. Considering that the containment would be vented before the Emergency Operating Procedure Primary Containment Pressure of 45 psig (depending on the Primary Containment Water Level Limit) would be reached, it is not likely that the ultimate pressure capacity would ever be reached. However, if venting is unsuccessful for any reason, there is sufficient margin in the material strength of the affected components to preclude containment failure at this higher pressure. For example, the IFTS drain line (1FH07A) is constructed of 4-inch diameter, Schedule 40S (0.237 inch nominal wall thickness) piping, which could withstand internal working pressures significantly higher than the 127 psig pressure that could potentially be observed at a containment pressure of 94 psig (94 psig plus 33 psig due to the static head of water). Also, the drain line expansion joint (1F42-D300) manufacturer has identified that the existing design

ATTACHMENT

Supplemental Information Supporting the License Amendment Request to Permit Inclined Fuel Transfer System Blind Flange Removal During Power Operations

configuration, using current design standards for commercial applications, is capable of supporting a design pressure of 117 psig, including a 2.25 safety factor. Under accident conditions the expansion joint could withstand a pressure of 180 psig. As a result, the expansion joint will maintain its pressure retention capability for a postulated 94 psig containment pressure (plus 32 psig due to the static head of water) following an accident.

Clarification Regarding the Integrated Impact of the Change on Large Early Release Frequencies

The NRC requested clarification regarding the approach taken to evaluate the integrated impact of the change on large early release frequency (LERF). The increase in LERF due to each of the evaluated leakage paths was modeled and quantified by AmerGen using input from the plant-specific probabilistic risk assessment (PRA) model. Releases from the IFTS bottom valve (1F42-F004) are scrubbed and are not considered to be large releases, although a bounding release contribution estimate through this path was made. The change in average LERF contribution from a release path through the IFTS drain valve (1F42-F003) was estimated by conservatively assuming that the IFTS flange and drain valve is open for the entire 40-day period per cycle. The failure rate for the action of isolating the drain valve was a conservatively high value of 0.1. Conservatively assuming that every core-damaging event could lead to LERF, the average annualized contribution to LERF frequency was estimated to be about $1\text{E-}7/\text{yr}$.