

Exhibit E

Fires and Fire-Related Challenges at the Three Mile Island Nuclear Generating Station

Three Mile Island Unit-1

- September 30, 1993 - GPU declared an Event of Potential Public Interest” due a small **fire** in the ‘C’ condensate pump.

- May 29, 1998 - “In an order confirming GPU Nuclear Inc.’s commitment to **replace Thermo-Lag fire barrier material**, federal officials yesterday notified the utility that its efforts may not be enough to complete the work on time [December 31, 1999] and, therefore, may not meet regulatory requirements for licensing.” (See also March 19, 1987; March 6, 1988; June 12 and September 1 and 3, 1991; July 27 and November 23, 1992; August 11 and September 30, 1993; and, September 29, 1994; October 1, 1996, and, February 18, July 17 & October 23, 1998.)

- September 29, 1994 - Thermal-Services-Inc. and its president Rubin Feldman, were indicted September 29 by a federal grand jury on seven criminal charges, including willful violations of the Atomic Energy Act, a decade-long conspiracy to defraud the US government, false statements and more. The charges are the culmination of a nearly two-year grand jury investigation of the company, which manufactures Thermo-Lag, the ineffective fire barrier material used in more than 70 nuclear reactors [including Three Mile Island]” (*The Nuclear Monitor*, October 17, 1994.) (For follow-up data, see October 1, 1996 and May 29 and October 23, 1998)

- July 17, 1998 - Thermo-Lag fire barrier was found “incorrectly configured”, i.e., outside of the approved joint design agreement. An License Event Report (LER) was produced by the Company which resulted in the NRC issuing a Severity Level IV **Non-Cited Violation**. (50-289/99-02). (See January 29, 1994; and , February 18, May 29, and, October 23, 1998, for related incidents.)

- August 25, 1998 - GPUN identified a Thermo-Lag fire barrier found outside of the approved joint arrangement. (See September 29, 1994; October 1, 1996; and, May 29, July 17, and October 23, 1998, for related events.)

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- September 14, 16, 29, and 30, and October 29, 1998 - GPU reported "outside design basis" incidents relating to "missed" fire hose surveillance tests, "missing" Thermo-Lag fire barriers, "improperly installed" Thermo-Lag fire barriers; and, fire barrier "discrepancies." (Events: 34787; 34853; 34856; and, 34973.) (Related incidents detailed on October 15 and 23, 1998. Also, please refer to August , 1999, for more information on "outside design basis incidents.)
- October 15, 1998 - GPUN completed an LER regarding **failures to perform fire protection program surveillances in a timely fashion**. Another LER related to this issue was filed on January 22, 1999. (See September 14, 1998, for precursor events.) (IR 50-289/99-02.)
- January 22, 1999 - Another LER was completed by GPUN relating to **missed fire surveillance testing**. (See October 15, 1998, for background information. Precursor events begin on September 14, 1998)
- July 21, 1999 - The NRC "found the **fire door** to the C-make-up pump (MU-P-1C) cubicle **opened and unattended**. The door had been propped open to support the decontamination efforts in the cubicle. Sometime during the decontamination efforts, a team of maintenance technicians entered the cubicle and the decontamination team left. The decontamination team did not close the door as they left, nor did they turn over to the maintenance technicians the fact that the door was required to be closed...This was similar to a condition on the A make-up pump (MU-P-A) cubicle identified by the inspector in the previous inspection period. GPUN entered the issue into the CAP (CAP [Corrective Action Process] T1999-0586). (IR 50-289/99-07)
- July 23, 1999 - "...a control room operator (CRO) found an ESAS **relay coil overheated and smoking**...GPUN experienced problems over the past year during testing when the relays failed to return the fully energized position after being deenergized. In this condition, the relay coil draws an excessive electrical current and overheating can result. Other ESAS relay failures were discussed in two previous inspection reports (IR 50-289/98-08 and 99-03)

...No testing was conducted to verify the continued operability of the overheated and smoking relay. GPUN replaced the relay later that same day and verified the operability of the new relay through appropriate post-maintenance testing...Although the relay was ultimately replaced and tested, GPUN's initial response was not timely and did not thoroughly evaluate the degraded relay for continued operability. This example of a weakness in GPUN's implementation of its corrective action process was a minor issue not subject to the formal enforcement process." (IR 50-289/99-07).

- December 19, 2000 - The NRC "reported to control room operators (CRO) that a fire door separating both safety-related barriers had a sticky latch...On December 22, 2000, the inspectors discovered the SROs [senior reactor operators] had not initiated compensatory measures for the degraded fire door. The inspectors also identified that the door was again left in an unlatched condition...AmeGen repaired the fire door on December 26, 2000." A **Non-Cited Violation** was issued.
(IR 05000289/2000-008.)

Pump blamed in fire at TMI plant

- December 09, 2003 - An on-site fire brigade extinguished a small blaze at the Three Mile Island nuclear power plant early Sunday, plant officials said.

The fire broke out around 2 a.m. after a pump in a Unit 1 turbine building malfunctioned, according to a statement from AmerGen Energy Co.

No outside fire companies were requested, and there were no injuries. The fire was extinguished less than 10 minutes after the alarm sounded, the statement said.

The affected area was part of the non-radiological side of the plant, according to officials. There was no release of radiation, and the fire posed no threat to the public, they said.

The cause of the malfunction remained under investigation.

This is the second fire at the plant this year. In July, a faulty transformer caused a fire in a turbine building at the Unit 2 reactor. Several outside fire companies responded to that blaze.

Unit 2 has been out of commission since 1979, when part of the reactor's radioactive core melted down. It was the worst accident in the history of American commercial nuclear power. (*The Patriot*).

- May 3, 2005 - "TMI Issue Report # 329440 identifies an issue associated with a previously unidentified/unanalyzed Appendix R fire scenario involving multiple high impedance faults. An engineering evaluation has determined that certain safety related power circuits are not protected against multiple high impedance faults, which in combination with a fire in the 305' elevation of the Control Building, could cause a loss of safe shutdown functions from the control room and the remote shutdown panel. An hourly fire-watch has been established in the affected fire zone in the 305' elevation of the Control Building as an interim compensatory measure." (Nuclear Regulatory Commission)

Four rented vehicles catch fire in a TMI parking lot

- September 18, 2006 Three pickup trucks and one back hoe caught fire in a parking lot on Three Mile Island at 8:45 on a Monday evening. The vehicles were rented from Hertz by a TMI contractor. The cause of the fire remained undetermined days later.

Londonderry Township fire officials said there were no signs of arson and that with vehicle fires, causes are hard to determine. The fire took less than half an hour to extinguish.

TMI officials said there was no threat to the plant during the incident, according to a local newspaper. (*Press And Journal* report)

Fire brigade rides elevator to fire

- October 7, 2007 - Nuclear Regulatory Commission inspectors said AmerGen allowed fire brigade members to use elevators while responding to an in-plant fire at TMI's Unit 1, even though power or control of the elevator could be lost because of the fire.

Firefighters could potentially be trapped in the elevators, which would delay their response to a fire emergency, the report noted.

Inspectors determined the fire safety violation of NRC regulations was of "very low safety significance," and TMI was not cited for the failure, according to the NRC's report. It fell under the "Green" category.

The finding was entered into the plant's corrective action program, the Oct. 7, 2007 letter stated. (Report by Marlene Lang)

- October 3 -December 31, 2009: The NRC completed an integrated inspection of Unit 1 for the period of October 1, 2009, to December 31, 2009. In a February 2 report, the NRC said it had one NRC-identified finding of very low significance involving violation of NRC requirements over carbon dioxide migration...NRC inspectors said the failure to consider the toxicity effects of CO₂ was a performance deficiency that was reasonably within Exelon's ability to foresee and prevent...

The licensee-identified matter relates to proper implementation of written procedures for fire protection. The company found that inspections of fire seals for five safety-related 120-volt vital inverters were not performed. The procedures require that penetration seals be verified as functional. The matter was placed in Exelon's corrective action program. The corrective actions include repair of the fire seals and ensuring that they are inspected every two years.

Three Mile Island Unit-2

- February 1987 - The NRC issued Violations for **two fires** that occurred in the Unit 2 reactor building. “According to a GPU News release, “one fire occurred when sparks from a welder’s torch ignited rags, a plastic bucket and a hose inside a room used for toll decontamination. The second occurred five days later when sparks from a welder’s torch ignited a canvass curtain”.

- February, 1988 - GPU was **cited by the NRC for failing to deploy a roving** fire watch “when the Halon system for a the cable and transformer rooms became inoperable” (*Patriot News*, May 19, 1988).

- May 19, 1988 - GPU was cited again for **violating fire regulations** by the NRC. the Commission noted four deficiencies in the Program, and added in a letter to the Company: “We are concerned that there has been a degradation in the overall control of your fire-protection program”, Lee H. Bettenhauser, Chief, Reactor Division Projects

- August 5, 1992 - GPU “declared an event of potential public interest when the Unit-2 west cooling tower caught fire.” The **fire lasted for ten minutes**.

The Pennsylvania DER ordered GPU to **remove the waffling** from the TMI-2 cooling towers after the most recent fire.

- August 11, 1993 - The NRC issued two Notice of Violations relating to emergency preparedness (EP.) One violation occurred during the EP exercise conducted from June 7-11, 1993 and involved adequacy of fire protection exit provisions. The other violation dates back to February 7, 1993, and is related to a delay in callout of the emergency response organization. (This violation is being “**considered for escalated enforcement**.” (See February 7 and July 2, 1993 for more information) (IR 50-289/93-08)

- July 2, 2003 -Firefighters and the Pennsylvania State Police responded to the electrical fire that damaged the turbine building's switch gear room at TMI Unit 2. "Although a five-member AmerGen fire brigade also responded to the blaze, Akron, Ohio-based FirstEnergy is responsible for the operation of TMI Unit 2.

"AmerGen Energy, co-owner and operator of TMI Unit 1, has an agreement with FirstEnergy to maintain and monitor TMI Unit 2. "While the cause of the fire remains under investigation, FirstEnergy has determined that a transformer in the switch gear room that powers lighting at TMI Unit 2 appears to have overheated and failed, said Richard Wilkins, a company spokesman.

"The company will spend more than \$100,000 to replace the damaged 55-gallon drum-sized transformer, switch gear, wires and other equipment damaged in the smoky blaze, he said.

"For the next two months, while workers repair the equipment, TMI Unit 2 will use temporary lights, Wilkins said. "It's not unusual for a transformer to fail," Wilkins said. "It's not unheard of." (*York Daily Record*)