

**Re: Public Hearing of the Senate Environmental  
Resources & Energy Committee  
Wednesday, June 28, 2006, 9:00 am  
Senate Majority Caucus Room**

Patrick Henderson  
[phenderson@pasen.gov](mailto:phenderson@pasen.gov)  
Senator Mary Jo White  
Main Capitol, Room 169  
Harrisburg, PA

June 27, 2006

Dear Patrick:

Enclosed please find the testimony of Eric J. Epstein on behalf of Three Mile Island Alert, Inc. on the matter of tritium levels at municipal waste landfills and in groundwater near nuclear generating stations.

Elevated levels of tritium have been recently detected in groundwater in close proximity to nuclear generating stations in Illinois owned and operated by Exelon including Braidwood (1), Dresden and Zion (2). Tritium had been leaking for years (back as far as 1996) without detection or notification of the residents, homeowners, or state officials. The leaks prompted a law suit by the Illinois Attorney General and Will County's State Attorney.

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1 According to Illinois Attorney General, Lisa Madigan, tritium releases occurred in 1996, 1998, and 2000. Three other releases occurred at unknown times. The effluent plumes emanated from Braidwood's blowdown line, an underground pipe that carries wastewater, approximately four and one-half miles from the power plant directly to the Kankakee River. An additional release occurred at an unknown time in the area near and to the west of the station and an eighth release occurred March 13 near the tritiated water temporary storage area at the plant. (Press Release, March 16 , 2006)

2 Traces of radioactive tritium were discovered in groundwater at the deactivated Zion nuclear power plant. Exelon disclosed it dug nine wells on the site later in May of 2006 to test for tritium after revelations of tritium spills at other Exelon Nuclear-owned facilities.

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The owner and operator of the Exelon plants in Illinois failed to report tritium releases to state officials in a timely manner. The state became aware of the spills only after being informed by local officials near the nuclear facility. The leaks did not constitute an immediate threat to human health; however, the long-term effects of radioactive contamination in the surrounding groundwater and soil could create health risks for residents and workers.

Exelon owns and operates three nuclear generating stations in Pennsylvania including: the Limerick Nuclear Generating Station (Pottstown), the Peach Bottom Atomic Power Station (Delta), and Three Mile Island Nuclear Generating Station (Londonderry Township). **These plants also routinely <sup>3</sup>dispose<sup>2</sup> of <sup>3</sup>low-level<sup>2</sup> radioactive waste byproducts in Pennsylvania landfills.**

Three Mile Island-1 found elevated tritium levels onsite during the fall of 2005. The elevated levels were due to a leak at one well traced to a sump from an auxiliary boiler in the turbine building (East Side). TMI's data, which was reviewed by the DEP, found tritium levels to be about 19,000 pCi/liter. The contaminated water did not commingle with onsite groundwater or breach the site boundary. (3) TMI had announced that they may drill two additional wells.

Normal ambient levels of tritium range from 100 to 150 picocurie (pCi/lit per liter.) However, readings from tritium bore wells drilled in the fall of 1990 were as high **17,000 to 53,000 picocuries per liter** according to the NRC. (4) Measurable levels of tritium were released directly into the environment during the evaporation of 2.3 million gallons of accident-generated radioactive water at Three Mile Island Unit-2 from December 1990 through August 1993. According to the Pennsylvania Department of Environmental Resources, the total activity during evaporation was 658 curies of tritium or a 1 to 1.3 MR dose to the public (October 28, 1993.)

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3 The EPA tritium limit for safe drinking water is 20,000 picocuries per liter.

4 David Beaulieu, NRC Senior Resident Inspector, October 25, 1990.

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Exhibit 1 is a Petition for Rulemaking filed by the Union of Concerned Scientists, Three Mile Island Alert, and numerous organizations throughout the country regarding tritium leaks at nuclear facilities.

Exhibit 2 is a letter from Thomas K. Fiddler, Deputy Secretary of the DEP to Nils J. Diaz, Chairman of the Nuclear Regulatory Commission, relating to elevated tritium levels in Pennsylvania landfills.

And Exhibit 3 is a letter from three doctors to the Illinois Governor reporting a 43% rise in leukemia cases and a 75% increase in cancer cases in the area around the Braidwood and Dresden nuclear plants.

TMI-Alert recommends that Pennsylvania adopt **new regulations** (modeled on legislation recently signed into law this month in Illinois) (5) **requiring nuclear facilities, generators, end users (6), repositories and landfills to report radioactive releases into the soil, surface water or ground water.**

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5 Please refer to enclosure.

6 € NRC staff met with Marcus Hook company to discuss several apparent violations

identified during an inspection involving exposures exceeding regulatory limits to employees and contractors of Epsilon Products Co. who are not occupational radiation workers (NRC News, US NRC, March 13, 2006.)

€ Based on an investigation conducted by the NRC<sup>1</sup>'s Office of Investigations, the agency determined that in three instances former Hershey nuclear medicine technicians used NRC-licensed radioactive material to perform unauthorized nuclear medicine tests on themselves in the 1996-1997 time-frame, in October 2002 and April 2004. (NRC, October 18, 2005)

€ NRC staff met with representatives of a Lancaster hospital on September 16, 2006 to discuss three apparent violations of agency requirements. NRC inspectors found that last November, the door to a high dose rate remote after loader was left open and the device was left unsecured and unattended.

€ September 7, 2004 - The NRC granted the request of MolyCorp, Inc., to terminate its license to possess radioactive material at a former chemical manufacturing plant near York, and released the site for unrestricted use.

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**Pennsylvania is importing and burying nuclear waste in its landfills and depositing of radioactive materials from routine nuclear power plant operations.**

The law should require the above named nuclear licensees to notify the state of any unpermitted releases of radioactive materials to the Pennsylvania Department Environmental Protection Agency and the Pennsylvania Emergency Management Agency within 24 hours.

The DEP should also be empowered to conduct quarterly inspections at each of the state's five nuclear power plants, and review quarterly and multiple well monitoring results from affected landfills.

Without this legislation, nuclear facilities in Pennsylvania are only required to report releases to the federal Nuclear Regulatory Commission when releases (if detected) reach a high concentration.

Sincerely,

Eric Epstein, Chairman,  
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315 Peffer Street  
Harrisburg, PA 17102  
(717)-541-1101 Phone

*Three Mile Island Alert, Inc., a safe-energy organization based in Harrisburg,*

*Pennsylvania and founded in 1977. TMIA monitors Peach Bottom, Susquehanna, and Three Mile Island nuclear generating stations. tmia.com*

cc:

Senator Patricia Vance  
Representative Bruce Smith  
Dave Allard, Bureau of Radiation Protection, DEP  
James Joseph, Director, PEMA  
Stephen Bruder, sbruder@pasenate.com

Attachments: Exhibits 1, 2 & 3.

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**Enclosure:** <http://www.ilga.gov>.

**Short Description:** ENVIRONMENT-TECH

**House Sponsors**

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**Last Action**

6/12/2006 House Public Act . . . . . [94-0849](#)

**Statutes Amended In Order of Appearance**

[415 ILCS 5/19.9](#) from Ch. 111 1/2, par. 1019.9

**Synopsis As Introduced**

Amends the Environmental Protection Act. Makes a technical change in a Section concerning how the Title regarding water pollution control and public water supplies is construed.

**House Amendment No. 1**

*Deletes reference to:*

[415 ILCS 5/19.9](#) from Ch. 111 1/2, par. 1019.9

*Adds reference to:*

415 ILCS 5/13.6 new

Deletes everything after the enacting clause. Amends the Environmental Protection Act. Requires the owner or operator of a nuclear power plant to report to the Environmental Protection Agency any unpermitted release of a contaminant within 24 hours. Provides that an "unpermitted release" means any spilling, leaking, emitting,

discharging, escaping, leaching, or disposing of a contaminant into groundwater, surface water, or soil that is not permitted under State or federal law or regulation. Requires the Agency to inspect each nuclear power plant with respect to unpermitted releases no less than once each quarter every calendar year. Requires that no later than one year after the

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effective date of this amendatory Act, the Agency shall propose rules to the Board prescribing standards for detecting and reporting unpermitted releases of contaminants at nuclear power plants (including, but not limited to, tritium or other radionuclides). Provides that no later than one year after receipt of the Agency's proposal, the Board shall adopt rules prescribing standards for detecting and reporting unpermitted releases of contaminants at nuclear power plants. Authorizes rules to include standards for self-monitoring by the owner or operator of the nuclear power plant. Adds other provisions. Effective immediately.

### **Senate Committee Amendment No. 1**

Deletes everything after the enacting clause. Reinserts the provisions of the bill as engrossed. Provides that the purpose of this Section is the detection and reporting of unpermitted releases of "radionuclides" (instead of "contaminants" including radionuclides) into groundwater, surface water, or soil at nuclear power plants. Makes corresponding changes reflecting this purpose. Requires the owners of a nuclear power plant to notify the Environmental Protection Agency (IEPA) and the Illinois Emergency Management Agency (IEMA) within 24 hours of an unpermitted release. Provides that the quarterly inspections shall be by both IEPA and IEMA. Requires IEPA to consult IEMA in proposing rules to the Pollution Control Board that prescribe standards for detecting and reporting unpermitted releases of radionuclides. Provides that these rules may include standards for self-inspection by the owner or operator of the nuclear power plant in lieu of the IEPA and IEMA quarterly inspections. Effective immediately. The bill is HB1620. On the Net: <http://www.ilga.gov> )

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