



# Exelon's History of Radiation Leaks and Hiding it from the Public



Exelon has a history of leaking large amounts of radioactive water and not reporting it to regulatory agencies or the public. Tritium, a radioactive form of the element hydrogen, is produced in nuclear reactors and forms radioactive water. Prolonged exposure to even low doses of tritium is known to cause cancers and birth defects.<sup>1</sup>

Exelon avoided taking full responsibility for tritium leaks and bearing the entire cost to ensure local residents have clean drinking water. Exelon spokesman Craig Nesbit said, "We think this ought to be a partnership between the state and federal governments and Exelon."<sup>10</sup>

Three of Exelon's seven nuclear power plants in Illinois have a history of accidental tritium leaks – referred to as "incidents" by the nuclear power industry. There is irrefutable evidence that Exelon knew there were tritium leak "incidents" well before they reported them to the public.<sup>2</sup> Exelon's record of unaccountability to the public in Illinois could indicate the kind of corporate citizen it would be in Victoria, Texas.

The three Exelon plants with known radioactive leaks in Illinois are Braidwood Generating Station, Dresden Generating Station, and Byron Nuclear Generating Station. Here are the facts we know.

## Braidwood

- ◆ Location: 60 miles southwest of Chicago, Illinois
- ◆ December 6, 2005 – the Nuclear Regulatory Commission (NRC) was informed that workers had detected tritium in a drinking water well at a home near the plant.
- ◆ Further sampling of offsite wells showed tritium levels at 34,000 picocuries per liter; the Environmental Protection Agency (EPA) allows 20,000 picocuries per liter
  - 1996: **250,000 gallons of tritiated water (water containing tritium)** leaked near plant
  - 1998: **3 million gallons leaked**
  - 2000: another **3 million gallons leaked**
  - Dates not known: several leaks occurred, one which migrated offsite into a forest preserve
  - 2006: tritium released from a temporary storage area
  - A **total of 22 leaks** have been discovered<sup>3,4</sup>
- ◆ The **leaks occurred between 1996 and 2000, but were not reported to state officials until November 2005 (9 years after the first leak)**. The public was not informed until the following month.
- ◆ Residents from the area filed a class action law suit against Exelon over potential health problems and loss in property values.
- ◆ March, 16, 2006 – state of Illinois filed a lawsuit against Exelon seeking \$36.5 million in fines for both the company's failure to properly maintain the underground pipeline that leaked and their delay in notifying state officials.<sup>5</sup>

April 7, 2006: As Exelon was conducting a community meeting to tell residents how it planned to start cleaning up tritium from previous spills, another leak occurred as tritiated steam that condensed, creating a pool of 500 gallons of water. Resident Rich Bilby, who lives nearby, said, "It just boggles the mind. How can it just keep happening?"<sup>11</sup>

## Dresden

- ◆ Location: Grundy County, Illinois
- ◆ Tritium leaks occurred in 2004 and 2006, reported to the public only after the Braidwood leaks caused Exelon to start testing.
- ◆ October 2004 – **pipeline leak of 650,000 gallons of tritiated water** was found in three off-site private wells; tests revealed that groundwater tritium levels were **over 500 times the federal limit**.
- ◆ February 12, 2006 – **second leak** discovered; follow-up tests found tritium levels at **25 times higher than the EPA safe drinking water level**.<sup>6</sup>

Exelon spokesman Craig Nesbit agreed that company officials should have done more and “did not account for the potential public impact.”<sup>12</sup>

## Byron

- ◆ Location: 25 miles south of Rockport, Illinois
- ◆ February 2006 – **tritium leak discovered**
- ◆ **Tritium levels were more than four times the federal standard** in vaults along pipes that transport waste.<sup>7</sup>
- ◆ April 12, 2006 – Violation notice issued to the plant, specifically identifying violations of state environmental regulations relating to impairment of resource groundwater. Exelon is also cited for discharging waste-containing contaminants in areas not allowed by its permit, as well as violating other operational and reporting requirements of its water discharge permit.<sup>8</sup>

## Tritium’s Health Effects

- ◆ Can be ingested in food and water, inhaled, or absorbed through the skin
- ◆ Has a half-life of 12.5 days, making it dangerous for 120-248 years
- ◆ Is taken up by plants and animals in the environment and increases in concentration as it goes from one organism to another (bioconcentrates)
- ◆ Causes tumors and cancer in the lungs and digestive tract
- ◆ Shrinks the testicles and ovaries even at quite low doses and causes birth defects, mental retardation, decreased brain weight, loss of reproductive abilities of offspring, and stunted, deformed fetuses
- ◆ After entering the body, is found in body fluids, organs and tissues, and is uniformly distributed through all biological fluids within one to two hours<sup>9</sup>

U.S. Senator Dick Durbin (D-Ill.) announced that Braidwood residents have identified a “cancer cluster” and “significant increases in low birth-weight babies” in the area.<sup>13</sup>

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## References:

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- 2 Dardick, Hal. 4/6/07. Suit says Exelon avoided water test: Chemical spilled outside plant. *Chicago Tribune*.
- 3 Ibid.
- 4 Press Release from the Attorney General’s Office of the State of Illinois. 3/16/06. Madigan, Glasgow File Suit for Radioactive Leaks at Braidwood Nuclear Plant.
- 5 Public Citizen. Tritium Leaks at Nuclear Power Plants Contaminate Groundwater. Available at: [http://www.citizen.org/cmep/energy/enviro/nuclear/nuclear\\_power\\_plants/reactor\\_safety/articles.cfm?ID=15089](http://www.citizen.org/cmep/energy/enviro/nuclear/nuclear_power_plants/reactor_safety/articles.cfm?ID=15089) [Accessed 10/8/08].
- 6 Dardick, Hal. 2/16/06. More leaks at nuclear sites: Exelon discloses 2 additional tritium spills. *Chicago Tribune*.
- 7 Ibid.
- 8 Illinois Environmental Protection Agency. April 2006. Fact Sheet: Exelon Byron Nuclear Generation Station: On-going tritium investigation. Available at: <http://www.epa.state.il.us/community-relations/fact-sheets/exelon-byron/exelon-byron-1.html> [Accessed 10/8/08].
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