

### NUKE MATTERS: America's Hometown goes nuclear

History of Nuclear Power in the U.S.

## By Karen Vale, Cape Cod Bay Watch Wicked Local Plymouth

Posted Oct 18, 2012 @ 06:00 AM

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What's this?

# Pilgrim Nuclear Power Station

These same concerns exist today.

dangerous for hundreds of thousands of years;

Entergy's Pilgrim Nuclear Power Station (Pilgrim) began operating in 1972. It was built and owned by Boston Edison, and sold to Entergy in 1999 for \$81 million. Pilgrim is built on Cape Cod Bay, in Plymouth, Mass. — a site chosen because it was sparsely populated at the time and the coastal location provides convenient access to Cape Cod Bay's water, required to cool its system.

In the late 1950s, the peaceful use of atomic power became a symbol of progress and a hopeful future to

 $Americans-a \ solution \ to \ impending \ shortages \ of fossil \ fuels, an icon \ of scientific \ achievement \ and \ a \ way to \ promote \ cooperation \ among \ nations. The first U.S. \ commercial \ power \ station \ opened \ in \ 1958 \ in$ 

Pennsylvania, and within 20 years there were 58 nuclear power facilities in operation in the U.S.

· Releases of radiation into the air, both through daily emissions and accidental releases;

· Radioactive and chemical wastes leaking into groundwater and surface water; and

disasters in 1979 and 1986, respectively. Some of these problems are:

· The possibility that facilities could be targeted by terrorists.

estimated to produce only 20 percent of the nation's electricity.

By the 1970s, however, safety and environmental problems associated with nuclear reactors gained

increasing attention. This became especially true after the Three Mile Island and Chernobyl nuclear

· Safe, long-term storage of radioactive waste generated by nuclear power production, which remains

According to the U.S. Energy Information Administration, there are currently 65 commercially operating nuclear power stations in the U.S. with 104 nuclear reactors in 31 states. These reactors are

From the beginning, Pilgrim raised serious concerns for residents and elected officials in the state. For example, it opened with faulty fuel and without an off-gas treatment system in place (a system that limits radiation exposure to the public). In the early 1980s significant releases of radioactive products occurred, as did evidence of increased cases of radiation disease. This prompted the Massachusetts Department of Public Health to test the probability of adult leukemia in people near Pilgrim – the study showed a four-fold increase.

Power stations have an operational lifespan of 40 years – after which time radioactivity degrades parts, leading to leaks and compromising safety. Despite this, the regulatory body that oversees nuclear facility safety in the U.S., the Nuclear Regulatory Commission (NRC), has extended licenses to facilities allowing them to operate decades past their intended lifespans – including Pilgrim. Despite outstanding concerns, the NRC recently relicensed Pilgrim for another 20 years. These concerns include:

- · Pilgrim's reactor has the same design flaw as Fukushima a relief vent installed as a quick "fix" for a containment structure that cannot withstand pressure buildup; the vent was tested three times in Fukushima and failed, resulting in explosions.
- · There have been incidents of radiation-linked disease in surrounding communities.
- $\cdot$  Pilgrim uses more than 500,000 gallons of Cape Cod Bay's water each day to cool its reactor harming marine life and degrading biologically important habitats.
- · Pilgrim's permit to operate its "once-through" cooling system expired 16 years ago.
- $\cdot$  Radioactive tritium is polluting groundwater, which flows into Cape Cod Bay.

#### Working toward a Solution

If Pilgrim is to operate for another 20 years, concerned residents must insist that government regulators take notice of the issue, request assessments of the effects Pilgrim has on species and habitats in the bay, and demand Pilgrim obtain valid permits and certifications required under the law. It's up to individuals to hold regulators accountable for failing to implement various laws and regulations.

To learn more about how you can help, please visit  ${\color{red}{\bf capecodbaywatch.org.}}$ 

Karen Vale is the campaign coordinator at Cape Cod Bay Watch. Cape Cod Bay Watch is dedicated to protecting and restoring water quality and marine life in Cape Cod Bay through public education, networking, and advocacy. Its current priority is addressing the harmful effects of the Pilgrim Nuclear Power Station – especially its destructive "once-through cooling" system – on

1 of 2

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water quality and marine life in the bay.	
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2 of 2