



OF NUCLEAR INTEREST: Fukushima anniversary – a yearly wake-up call

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Six years later, the aftermath of the Fukushima disaster continues.

By Heather M. Lightner

March 11 marks the six-year anniversary of the Fukushima disaster. A 9.0 earthquake off Japan's coast created a tsunami that made landfall an hour later. The giant wave breached the seawall at the Fukushima Daiichi Nuclear Power Station, flooding buildings, and ultimately leading to meltdowns in three reactors. The reactors were General Electric Mark 1 boiling water reactors, the same type used at Pilgrim Nuclear Power Station in Plymouth.

Six years later, the aftermath of the Fukushima disaster continues. Contaminated water and soil remain a threat to the environment and public health. This is especially true due to storms and other events that could loosen contaminants in soils and near-shore sediments.

Groundwater flowing through the site is becoming highly contaminated. Tokyo Electric Power Co. (TEPCO), Fukushima Daiichi's owner, has had problems keeping this water contained although recent efforts to stop the flow of radioactive water into the Pacific Ocean have been somewhat successful. Nevertheless, TEPCO is struggling to deal with nearly a million tons of

contaminated water stored on-site. The company has removed cesium, strontium, and other radionuclides from the stored water, but has to yet to find an effective means of removing the radioactive hydrogen isotope tritium.

Identifying the condition and location of melted fuel has been another challenge for TEPCO. It is believed that the majority of the melted fuel dropped to the bottoms of the containment vessels. Since the fuel is so highly radioactive, workers are unable to enter the area to assess damage.

In January, a robotic probe was sent into the Unit 2 containment vessel, but the probe's camera was quickly destroyed by radiation. Last month a small robot was sent in, but it became stuck in rubble, rendering the mission unsuccessful. TEPCO is currently developing a robot capable of jumping over debris and is planning investigations of Units 1 and 3 in the future.

Decontamination and reconstruction efforts are slowly making headway. Some of the displaced residents are returning home in areas where radiation exposure levels have been reduced below thresholds; however, many are still unable to return. Additionally, as inconceivable as it may seem, the Tokyo metropolitan government and International Olympic Committee have reportedly agreed that some of the Tokyo 2020 Olympic events should be held in Fukushima.

After the Fukushima accident, the Japanese government shut down all 50 reactors in the country. This decision was reversed in 2014 when the succeeding government changed the national energy plan. As a result, several plants with new safety regulations implemented after the nuclear disaster were allowed to reopen.

The decision to restart nuclear power in Japan begs the question – is nuclear power really worth the risk? The current Japanese government feels that the risk is acceptable, but do those formerly living in the shadow of Fukushima Daiichi agree? Residents and the environment have suffered greatly from the catastrophic event. The final financial repercussions of the accident are yet unknown but are guaranteed to be astronomical.

Fukushima's anniversary should be a yearly wakeup call for residents of Plymouth, the Cape, the South Shore, the commonwealth, and those living within the 50-mile emergency protection zone.

The 45-year old Pilgrim plant is in need of significant repairs and upgrades. However, Entergy may not invest in a plant slated to close soon. Even if repairs were implemented, the Nuclear Regulatory Commission has cited Pilgrim with systemic mismanagement and ongoing federal violations. Pilgrim has been ranked by the NRC as one of the three worst performing reactors in the country. Pilgrim's degraded performance status leaves it one-step away from mandatory shutdown by the agency.

As we are reminded of Fukushima this month, we must ask ourselves whether we are willing to accept the risks associated with two more years of operations at Pilgrim. Now more than ever, the risk that Pilgrim poses to our community outweighs any perceived benefit. The NRC should prohibit Pilgrim's spring refueling and enforce shutdown as soon as possible to protect our community, environmental resources and economy.

Heather M. Lightner is a registered nurse and a Plymouth resident. She is president of Concerned Neighbors of Pilgrim, which works closely with Cape Cod Bay Watch. She is also a member of the state's Nuclear Decommissioning Citizens Advisory Panel.

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