Town of Marshfield

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Michael A. Maresco
Town Administrator

February 27, 2024

Commissioner Bonnie Heiple
Department of Environmental Protection
100 Cambridge Street - Suite 900
Boston, MA 02114
Email: bonnie.heiple@mass.gov

Re: Pilgrim Nuclear Power Station, 310 CMR

Dear Commissioner Heiple:

On behalf of the Select Board of the Town of Marshfield, at our meeting on February 26, 2024, we discussed and voted to respectfully ask that the DEP request and thus require the licensed operator of Pilgrim Nuclear Power Station, Holtec Decommissioning International (HDI), and Pilgrim's licensed owner, Holtec-Pilgrim, to "install, maintain, and use emission monitoring devices" pursuant to Section 7.14(1) of 310 CMR,[1] which will:

> 1. Continuously monitor (a) the temperature of each dry cask at Pilgrim Nuclear Power Station storing spent nuclear fuel or greater than Class C radioactive material, and (b) the nature and amount of any emission of radiation, helium, or heat from any such cask; and
>
> 2. Continuously monitor emissions of any air contaminants resulting from the evaporation (forced or natural) of any radioactively or chemically contaminated water that at any time resided in the reactor, torus, spent fuel pool or separator of Pilgrim Nuclear Power Station.

We ask also that HOI and Holtec-Pilgrim be required to report such temperatures and all such emissions to the Department of Environmental Protection and to the radiation control division of the Department of Public Health on a continuous real-time basis and make the data publicly available.
Our reasons for this request are simple and straightforward.

Monitoring Dry Casks

All the spent nuclear fuel that Pilgrim has generated since 1972 is now stored in dry casks in a so-called Interim Spent Fuel Storage Installation (ISFSI) at Pilgrim, about 362 feet from and clearly visible from a public road. Each of the 62 casks contains 113 to radioactive Cesium-137 as the total amount of Cesium-137 that was released at Chernobyl.

The casks must be monitored on a real-time basis, for temperature and released helium and radiation.[2]

Temperature: If Pilgrim's canisters are getting too hot, that is also an important danger sign that the fuel assemblies in the canister are producing much more heat than they should, and that the passive air flow in

the annulus between the canister and overpack is blocked or simply unable to handle the amount of heat being produced. Massachusetts DPH needs to know this as soon as possible. Holtec never measures the canister temperature.

Helium: The inert helium in a canister is supposed to prevent combustion of the spent nuclear fuel (particularly the fuel rod cladding) inside the canister, to retard corrosion of the metal fuel rod cladding, and to conduct heat from the fuel assemblies to the cylindrical wall of the cask. Without enough helium in the canisters, the chance of canister failure is greatly increased. Holtec never monitors helium.

Radiation: If any Pilgrim dry cask fails, a substantial amount of radiation material will likely be released to the atmosphere, with large health and economic consequences for the Commonwealth, not simply the immediate area surrounding Pilgrim.

If Massachusetts is to protect its citizens, and to have any real ability to respond to a dry cask nuclear accident before it is too late, DEP must exercise its power under Section 7.14(1) of Ch 21 E and require Pilgrim's owner (Holtec-Pilgrim) and licensed operator (HOI) to:

> (1) install maintain, and use monitoring devices to monitor the temperature of each of Pilgrim's canisters, and the level of detectible radiation or helium leakage from any of Pilgrim's casks or canisters, and
> (2) report the monitored temperature and levels of radiation leakage of each cask to DEP and DPH on a continuous real-time basis and make data publicly available.

Unless the canisters of spent nuclear fuel casks are monitored on a real time basis, it will be impossible for the Commonwealth to take timely mitigation and protective actions.

Monitoring Air Emissions

When the decommissioning of Pilgrim began, it had approximately 1.1 million gallons of radioactively and chemically contaminated water that must be disposed of in the course of decommissioning.

Based on Holtec's own statements, it seems that Holtec will evaporate, and release into the air, all 1.1 million gallons of contaminated water. The evaporated water has not been, and likely never will be, filtered. Neither will the emissions be regularly monitored. At the September 2023 NDCAP meeting, Holtec's representative said that the amount of tritium and other radioactive materials released was determined only on the basis of weekly sampling, and that how much radioactive material was released was reported only annually. So far as we know, there has been no monitoring or measurement of chemical pollutants released in the course of evaporation.

From the September 2023 NDCAP meeting, we also learned that, during 2022 and part of 2023 about 200,000 gallons of the original 1.1 million gallons of contaminated water had been evaporated; and that even without heating about 100,000 gallons would continue to evaporate every year.

From both the NDCAP meeting and from an August NRC inspection report, we learned that Holtec for several months had used electric submersion heaters to heat contaminated water in the reactor cavity and that, as a result, an increased amount of the contaminated water had evaporated and been released though a reactor building vent. At the November 27, 2023, NDCAP meeting, we learned that Holtec resumed using electric submersion heaters earlier in November.

Unless Holtec changes its procedures, contaminated evaporation will continue. Holtec has extended decommissioning for eight years, until 2035, likely allowing time to evaporate all the unfiltered water. To

protect its citizens and economy, Massachusetts needs to know what air contaminants and in what amounts Pilgrim is releasing into the atmosphere, on a real-time basis.

DEP should require Holtec-Pilgrim and HOI to continuously monitor emissions resulting from the evaporation (forced or natural) of any contaminated water, and to report all such emissions to the Department of Environmental Protection, and to the radiation control division of the Department of Public Health on a continuous real-time basis.

On behalf of the citizens of Marshfield and our surrounding communities, we thank you for your attention to this matter.

Notes

[1] 7.14: Monitoring Devices and Reports
(I) Upon request by the Department through direct communication or public notice, any person who owns or operates a stationary emission source of a category and class specified by the Department:
(a) shall install, maintain, and use emission monitoring devices, of a design and installation approved by the Department, and
(b) shall make periodic reports to the Department on the nature and amounts of emissions from said source which the Department shall review and correlate for its use in emissions control and exhibit for public in-formation.
700 Definitions:
AIR CONTAMINANT means any substance or man-made physical phenomenon in the ambient air space and includes vapor, radioactive material, radiation and any combination thereof, or any decay or reaction product thereof. EMISSION means any discharge or release of an air contaminant to the ambient air space.
DEP's representative to NDCAP has told panel that Pilgrim Nuclear Power station is a Chapter 21 E facility.

[2] Neither temperature, helium nor radiation are source, special nuclear or by-product material as defined by the Atomic Energy Act.

Sincerely,
TOWN OF MARSHFIELD SELECT BOARD

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