

The Honorable Charles Baker

Massachusetts State House
Office of the Governor, Room 280
24 Beacon Street, Boston, MA 02133
Email: Charles.baker@mass.gov
June 1, 2022

Re: Request for a meeting to discuss concerns regarding Holtec's decommissioning of Pilgrim Nuclear Power Station

Dear Governor Baker,

On December 1, 2021, we learned that Holtec Pilgrim LLC planned to discharge one million gallons of radioactive contaminated water directly into Cape Cod Bay, which will flow into Plymouth, Kingston, and Duxbury Bays- all protected ocean sanctuaries.

We urge you to schedule a meeting soon to meet with us – a small group of stakeholders representing the fishing industry, Massachusetts Real Estate Association, tourist industry, conservation, and public safety groups. We expect after our discussion you will decide to strenuously oppose, and take steps to prevent, Holtec's expected discharge of radioactive water into our bays and support sending the water to a licensed out-of-state facility as Vermont Yankee chose to do with its two million gallons.

Factual Summary

1. The owner of Pilgrim Nuclear Power Station, Holtec, plans to discharge a million gallons of Pilgrim's radioactive water into Cape Cod Bay. The water will contain contaminants even after it is filtered/processed. Tritium cannot be filtered at all.
2. The contaminated water will be discharged right at the shore of Cape Cod Bay - not offshore or in the middle of the ocean.
3. Circulation patterns in Cape Cod Bay will hold the contaminated water in the bay for a long time. It will not flush out quickly.
4. Holtec does not need to dump any radioactive water into Cape Cod Bay. It has at least two other options that the NRC allows - evaporation and shipping to an already licensed off-site low-level radioactive waste facility. Dumping into the bay just happens to be cheaper.
5. Holtec's reasons not to transport Pilgrim's contaminated water to an out-of-state facility are pure hypocrisy. It sees no problem transporting far more solid radioactive waste from Pilgrim

and other plants it is decommissioning. It also hopes to transport all spent fuel from all of this country's commercial nuclear power plants power to a Holtec storage site in New Mexico.

6. Holtec's threatened dumping would cause severe economic damage to Massachusetts businesses and likely radiological damage to the public. Simply the threat of release could largely destroy much of the Commonwealth's aquaculture and fishing industries.
7. The NRC will allow discharge into our bays, but there are significant problems with the NRC's standards. The Commonwealth cannot assume that Holtec's planned dumping is safe.
8. Holtec will make a lot of money decommissioning Pilgrim. It can easily afford the cost of transporting Pilgrim's contaminated water to an off-site low level radioactive waste facility.
9. The Commonwealth is not preempted from enforcing its current state laws and regulations, including those that specifically prohibit disposing radioactive waste into our bays that are protected ocean sanctuaries. In the Settlement Agreement Settlement Agreement between it and the Commonwealth, Holtec explicitly agreed to "comply with all applicable environmental and human-health based standards and regulations of the Commonwealth." Par. 10(l)

Attached is more detailed information for your consideration. We look forward to hearing back from your staff and setting up an appointment to discuss these issues.

Respectfully submitted on behalf of Save Our Bay MA

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ATTACHMENT
HOLTEC'S PLAN TO DISPOSE OF RADIOACTIVE WATER IN CAPE
COD BAY

1. Pilgrim's Contaminated Water

Pilgrim is now closed and being decommissioned. As part of the decommissioning process, it must dispose of a little over one million gallons of radioactively and chemically contaminated water that is left-over from plant operations.

The water that Pilgrim must dispose of contains both chemical and radioactive contaminants. It comes from at least the following four of sources:

- The spent fuel pool
- The reactor vessel
- The dryer-separator
- The torus

A principal contaminant is tritium. Tritium cannot be removed by filtering or processing.

- “Nuclear power plants routinely and accidentally release tritium into the air and water as a gas (HT) or as water (HTO or 3HOH). No economically feasible technology exists to filter tritium from a nuclear power plant’s gaseous and liquid emissions to the environment. Therefore, the U.S. Nuclear Regulatory Commission does not require that it be filtered.”
[TRITIUM from Nuclear Power Plants: Its Biological Hazards · NIRS](#)

Pilgrim is required to file annual liquid effluent reports with the NRC. These reports [show that the water Pilgrim previously released, even after processing, also included radioactive and chemical contaminants.](#)

On December 1, 2021, the Nuclear Regulatory Commission (NRC) told Congressman Keating that “Holtec has informed the NRC that it plans to discharge liquid effluents sometime in the first quarter of 2022.” Public outcry forced Holtec to change its plans. It now says that is reexamining its options and will not dump in 2022.

On January 27, 2022, Kelly Trice, the President of Holtec Decommissioning International published a letter and “information” sheet discussing Holtec’s three options: “Continue to process, filter, monitor, and discharge the water,” “Continue to evaporate the water,” and “Transport the water to another facility for processing and discharge.”

2. Where the Contaminated Water Will be Discharged

Pilgrim is located on the shore of Cape Cod Bay. The slide below shows that the contaminated water will be released into Pilgrim's discharge canal, and then flow directly into Cape Cod Bay.



3. Once it has been released, the currents in Cape Cod Bay will hold the contaminated water in the bay for a long time. It will not rapidly disperse.

The following from a January 26, 2022, article in the Provincetown Independent show. Dr. Irina Rypina, an expert on ocean currents and tenured scientist at the Woods Hole Oceanographic Institution, said that contaminated water in Cape Cod Bay would be trapped there rather than filtering quickly into the ocean.

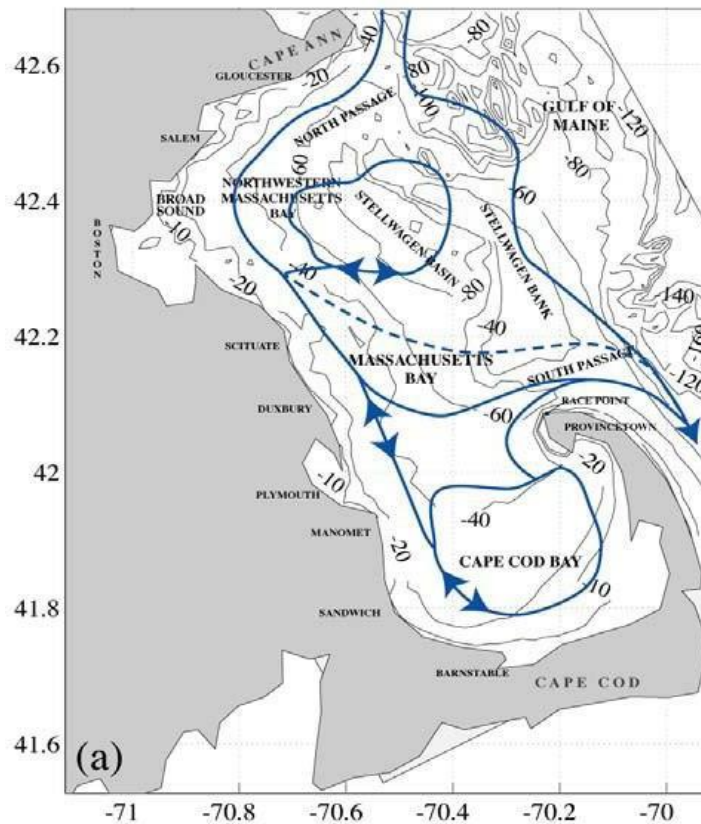
“Whatever is put in the bay would stay there a long time,” said senior scientist and oceanographer Irina Rypina. “It wouldn’t flush out quickly.”

“A tracer released into Cape Cod Bay would recirculate and stay in the waters within the bay for a long time,” Rypina continued, “and then will likely end up in the sediment on the ocean floor or on the beaches inside the bay.”

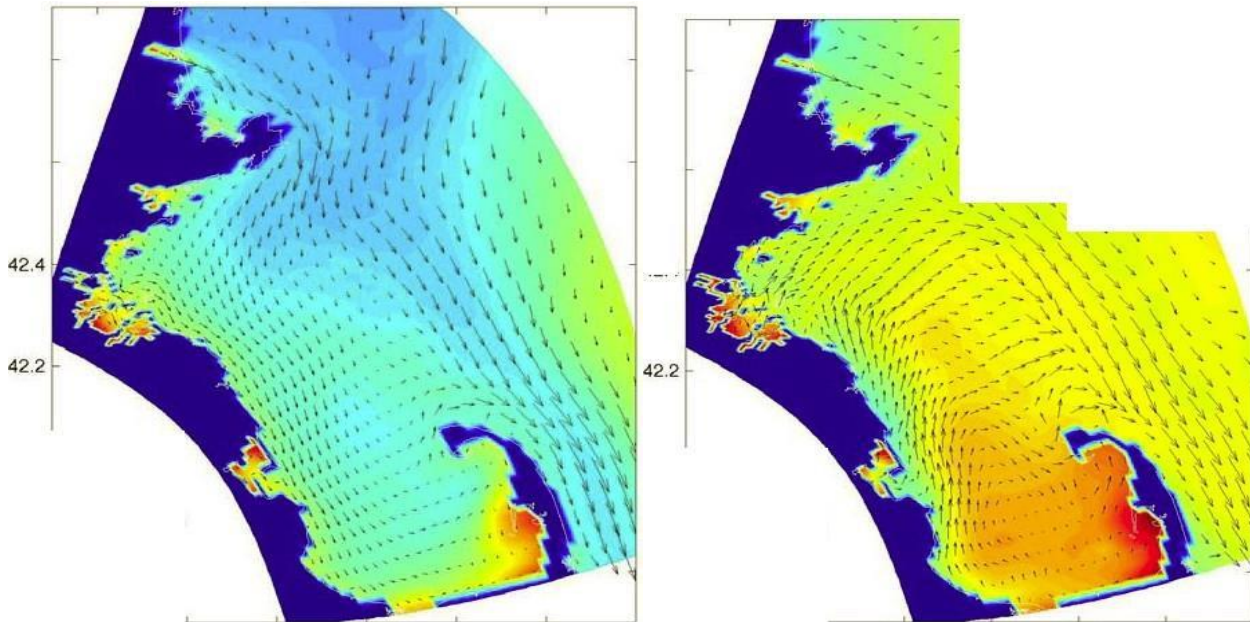
The same thing would happen to the radionuclides in the released water, said Rypina, confirming the fears of the Cape’s fishing community and coastal property owners.

With respect to the circulation patterns in Cape Cod Bay, the Massachusetts Water Resources Authority provided the following figures. (Lermusiaux et al. 2001.)

Figure 4-1 shows that water circulation in Massachusetts and Cape Cod Bays is generally circular, and that there is some flow into and from Massachusetts Bay.



The figure below shows that the circulation is generally counterclockwise in Cape Cod Bay in the Spring (left) and clockwise in the Summer (right).



These circulation patterns appear to be consistent with Dr. Rypina’s statements that whatever is put into the bay will recirculate and will not quickly flush out. Once out of Cape Cod Bay, the water will either enter Massachusetts Bay or flow around the arm of the Cape and travel along the outer arm.

4. Holtec does not need to dispose of any of its radioactive wastewater into Cape Cod Bay or Plymouth Bay. Dumping into the Bay just happens to be cheapest.

In its January 2022 presentation to the Massachusetts Nuclear Decommissioning Citizen’s Advisory Panel (NDCAP), Holtec repeated what Trice has said:

There are three options for disposal, evaporation of the water, treating and discharging under an approved permit, or transporting the water to be evaporated or treated and released in a similar processing method to how the site treats water.

All three are allowed by the NRC.

It seems agreed that evaporating the water is not a realistic choice. Evaporating the water radioactive contamination would release it into the air. It will “fall to earth we know not where” – but certainly in Plymouth and nearby towns.

As John Priest, the Director of DPH’s Radiation Control Program, said at the January NDCAP meeting:

“If you’re evaporating the water filtered from the stack, it eventually makes its way to the ground wherever the cloud floats to.” “Or you’re doing a liquid dump into the bay. Both are lousy choices.”¹

That leaves only two options – dumping the contaminated water in Cape Cod Bay and transporting it off-site to an existing low-level radioactive waste facility.

MDPH’s Director of Radiation Control also said, “doing a liquid dump into the bay” is also a “lousy choice.”

Vermont Yankee, a nuclear power plant that is very much like Pilgrim and that is also in the process of decommissioning, will send 2 million gallons of its low-level radioactive wastewater (twice the amount Holtec is contemplating dumping) to an Idaho waste facility rather than discharging it into the Connecticut River.

There is no acceptable reason for Holtec not to do the same. Cape Cod Bay, Plymouth Bay and Duxbury Bay are protected ocean sanctuaries.

Only two sentences in Trice’s January 27 letter, and two short paragraphs of his January 27, 2022, information sheet,” talk about evaporation and transportation – and they say only about why Holtec didn’t want to use either of these two options.

Both Trice’s letter and information sheet, and Dr. Singh’s testimony at Senator Markey’s recent hearing make it clear: Left to its own devices, Holtec will “do a liquid dump into the bay,” and Holtec’s only reason to make that choice is to save money.

¹ In a January 27, 2022, letter and information sheet, Kelly Trice, the President of Holtec Decommissioning International agreed that evaporation is undesirable, but for a different reason – it would cost too much.

Trice explained that, while Pilgrim was still operating, it used “residual heat” and existing “air handling systems” to evaporate water. But because Pilgrim is being decommissioned, they are no longer there. Trice’s letter and information sheet emphasized that “With residual heat not available, evaporation would require an alternate heat source, and the use of carbon creating fossil fuels” (Fact Sheet, p. 3); and that Pilgrim “would need to use electricity in great quantities to generate such heat and might also need to use the diesel fuel/diesel generator to help create the power.” (Letter, p. 2).

5. **Holtec’s reasons not to transport Pilgrim’s contaminated water to an existing out-of-state licensed waste disposal facility are pure hypocrisy.**

For years, Holtec has told everyone that transporting radioactive waste and debris is perfectly safe.

Holtec is now decommissioning two nuclear power plants, Pilgrim, and New Jersey’s Oyster Creek. It has shipped tons of solid radioactive waste from Pilgrim and Oyster Creek to existing waste disposal sites in other states. Pilgrim alone shipped over 2,000,000 pounds (about 1,000 tons) of radioactive waste to WCS in Andrews County, Texas in the first 9 months of 2021. In the first two months of this year, it had already shipped another 11,000 cubic feet by truck and rail.

In connection with its plans to build a spent nuclear fuel storage site in Southeastern New Mexico, Holtec assured the NRC that it will be perfectly safe to transport thousands of tons of spent nuclear fuel from all over the U.S. to that site:

“Statistically, 2.9 fatalities from traffic accidents would be expected over the 20-year transportation period. Because the risks are for the entire population of individuals along the transportation routes, the risk to any single individual would be small. About 99.99 percent of transportation accidents would not be severe enough to result in a release of radiological material from the transportation cask or degradation in the cask’s shielding.” (Nov 2020 Environmental Report, p 220)

After the hearing, Dr. Singh wrote Senator Markey, saying again that there will be an “absence ... of the risk of hazardous accident” in transporting more than ten thousand canisters of spent nuclear fuel from nuclear power plants all over the US to New Mexico.

But when opposing spending any money to ship Pilgrim’s contaminated water to an existing low-level waste storage facility, Holtec forgets all of this.

Holtec also forgets that the NRC said it would be safe to transport two million gallons of contaminated water, twice that of Pilgrim from Vermont Yankee to a disposal site in Idaho.

And even if there were an accident, a spill from a truck can be cleaned up. You cannot clean up radioactivity after it has been discharged into Cape Cod Bay.

The only apparent reason that Holtec doesn’t want to transport Pilgrim’s contaminated water off-side is that to do so would reduce its expected obscene profit. See **Holtec’s likely profit for decommissioning Pilgrim**, below.

In his May 9, 2022, letter to Senator Markey, Singh raised another straw-man. He said that “the suggestion made in the hearing to ship the putatively labeled contaminated water to another

locale runs counter to the basic tenets of environmental justice.” But in the same letter he also said Holtec’s planned “HI-STORE CIS [in New Mexico is] the very epitome of social justice.”

Once again, there is a vast gap - explained only by the difference between profit and cost.

Does anyone other than Holtec really believe that sending contaminated water to an already-licensed waste disposal site “runs counter to the basic tenets of environmental justice,” while at the same time building a massive new waste site in New Mexico for all of the nation’s spent nuclear fuel is “the very epitome of social justice?”

6. Holtec’s threatened dumping would cause severe economic damage to Massachusetts businesses, and likely radiological damage to the public.

a. Economic Damage

Holtec’s plan to dump radioactive water in our bays is not a secret. Press coverage, since December’s announcement of Holtec’s plan, already is extensive. Dumping will contaminate the water, and millions of oysters, lobsters, mussels, clams, scallops, and fish. Simply the public’s perception of contamination alone, irrespective of the degree, could destroy a hundreds-of-millions-of-dollars aquaculture and other fishing industries. The viability of these industries depends on public belief that the waters in Cape Cod Bay and Plymouth, Duxbury, and Kingston Bays are clean - not polluted with long lived and highly toxic radiation.

The state’s premier aquaculture industry is here. Our economic viability depends on the public believing that the waters in Cape Cod Bay and Plymouth, Duxbury, and Kingston Bays are clean. Holtec’s planned dumping can have serious impacts not only on fishing and aquaculture, but also on many boat and marine industries, to say nothing of real estate, tourism, and our beaches, on which the livelihoods of our towns depend.

Fish, oysters, clams, and mussels filter the water for their food. A single adult oyster can filter as much as 50 gallons of water a day. Consumed radionuclides bioaccumulate as they move up the food chain to our dinner tables.

This summer, seventy-seven million seed oysters will be planted in Duxbury alone. How many consumers might not buy our seafood because they fear it might contain long-lived and toxic radiation?

The fishing and aquaculture industries properly fear that dumping will contaminate the water, and millions of oysters, lobsters, mussels, clams, and fish. They also rightfully believe that public perception of what Holtec plans to do could largely destroy hundreds-of-millions-of-dollars

industries whose viability depends on public belief that the waters in Cape Cod Bay and Plymouth, Duxbury, and Kingston Bays are clean - not polluted with long lived and highly toxic radiation. In the March 30th *Duxbury Clipper*, Chris Sherman, the CEO of Island Creek Oysters (I understand is the largest oyster company in Massachusetts) said:

“Regarding Holtec’s plan to discharge radioactive water into Cape Cod Bay, we at Island Creek Oysters have been working with our industry advocacy group, Massachusetts Aquaculture Association, our political representatives, and state regulators to ensure that Holtec does not discharge any nuclear material into our marine environment. After decades of experience working alongside our government’s marine regulators, we have the utmost trust that they wouldn’t allow for discharge of any substance that would compromise the integrity of our Bay. But it doesn’t make sense to gamble in any way with the hard-won gains of Massachusetts coastal communities for the sake of one corporation’s bottom line.”

In the same article, Ben Lloyd who owns Standish Shore Oyster Farm said he was concerned about the public’s perception of the dumping and “what they can do to our market. Are they going to [release the material] on an outgoing tide or an incoming tide? The Bay is a shallow system, and it takes three days for water to turn over, enough time for it to settle to the bottom.”

Those who have expressed the same concerns, particularly the importance of the public continuing to believe that our bays are clean, include:

- U.S. Senators Markey and Warren and U.S. Representatives Keating and Moulton (Joint letter to President of Holtec Decommissioning International)
- U.S. Representative Keating (letter to NRC)
- National Oceanic and Atmospheric Administration (letter to NRC and EPA)
- U.S. Environmental Protection Agency (letter to Holtec)
- Towns (as of this date) with large majorities have passed resolutions strongly opposing Holtec’s plan to dump into the Bay: Scituate, Provincetown, Truro, Wellfleet, Eastham, Orleans, Chatham, Harwich, Brewster, Dennis, Yarmouth, Mashpee, Falmouth, Bourne, Sandwich, Tisbury, West Tisbury, Edgartown, Oak Bluffs, Chilmark, and Aquinnah.
- Select Boards, such as Duxbury and Plymouth (letter to Governor Baker). The Duxbury Annual Town Meeting adopted an ordinance, and its Board of Health passed a no dumping regulation. The Plymouth Board of Health passed a similar resolution.
- The Town Administrator of the Town of Bourne (letter to Mass DEP, EPA, NRC, and NDCAP)
- The Cape Cod Regional Government Assembly of Delegate (letter to President of Holtec Decommissioning International)

- The Massachusetts Aquaculture Association (letter to the chairs and members of the Massachusetts Legislature’s Joint Committee on Environment, Natural Resources and Agriculture)
- Mark E. DeCristoforo, the Executive Director of the Massachusetts Seafood Collaborative (letter to Holtec International)
- Massachusetts Association of Realtors
- Sheila Lynch-Benttinen (letter to NOAA and NRC)
- Herring Pond Wampanoag Tribe (letter to NRC and EPA)

The list of other local, state, and national groups that oppose what Holtec wants to do includes, in addition to those above, Clean Water, Community Action Works, MassPirg, Greater Boston Physicians for Responsibility, Sierra Club MA, UU Mass Action, Cape Downwinders, Pilgrim Watch, and Plymouth’s Six Ponds Improvement Association.

There are many others.

b. Radiological Damage

The NRC says that Holtec’s dumping is safe because it will be below NRC standards. Not so. In addition to giving no consideration to economic impact, the NRC allowable release standards:

- Ignore more recent scientific evidence showing much greater risk from radiation.
- Focus only on cancer and underestimate its actual impacts. The increased risks to pregnant women and the embryo/fetus include early miscarriages, malformations, and genetic defects.
- Do not calculate harm to the wider population, only to an individual.
- Forget that it is not possible to filter some very harmful radionuclides such as Tritium; and forget organically bound tritium produces more serious health risks than does tritiated water for the same amount of tritium intake.
- Rely entirely on what Pilgrim or some other licensee reports, and only reviews Pilgrim’s discharge program and past releases annually. MDPH does not monitor the discharges at all.

Ken Buesseler a radio-chemist from WHOI who studies the fate of radioactive elements in the ocean, explained that it is not possible to determine the impact “Until we have an accounting of what different radioactive elements that will be released and their concentrations... actual values for the stored water today, by isotope, detection limit, volume.” Buesseler explained “radioactive contaminants have vastly different fates in the ocean depending on their chemical nature. Some dilute and mix and are transported the same as water, like tritium. Others are more likely to be

associated with marine sediments, like cobalt-60, and others accumulate in marine biota. Usually cesium isotopes and strontium-90 are of concern.”

7. The NRC will allow Holtec’s planned dumping. The Commonwealth cannot assume that dumping is safe.

A few months ago, the NRC’s historian published a book aptly titled “Safe Enough.” The question is “safe enough” for whom? The NRC and the nuclear industry on which the NRC’s very existence depends, or the rest of us?

For example, the NRC says that Holtec can dump anytime it wants to. Good for Holtec; bad for the rest of us.

For the NRC to allow any discharge of radioactivity into our Bays is contrary to the NRC’s stated – but largely ignored - policy that “In principle, no dose should be acceptable if it can be avoided.”

Holtec can meet the “no dose” policy only by using another option - transporting the contaminated water to an off-site radioactive low-level waste facility.

Allowing Holtec’s planned discharge is also contrary to the NRC’s regulation, 10 CFR [20.1101\(b\)](#), [that says an NRC](#) licensee must achieve occupational doses and doses to members of the public that are as low as is reasonably achievable (ALARA). NUREG/CR -2907, Vol. 24, 1.2 says that “maintaining radiation doses from radioactive effluents ‘as low as is reasonably achievable’ (ALARA)” [is an NRC requirement](#).

Holtec cannot meet the ALARA requirement by reducing the amount of radioactivity in Pilgrim’s contaminated water before it is dumped into the bay or by evaporating it on-site. No filter is perfect, and tritium cannot be filtered at all.

Beyond that, there are serious problems with the NRC’s allowable release limits.

- They are based on pre-1991 science and ignore more recent scientific evidence, such as BEIR VII, showing much greater risk from radiation.
- The NRC’s allowable doses focus only on cancer and even there underestimate its actual impacts. More important, they do not consider the increased risks to pregnant women and the embryo/fetus such as early miscarriages, malformations, and genetic defects.
- They do not consider the economic or environmental effect of a release.
They do not calculate harm to the wider population, only to an individual.

- They forget that it is not possible to filter some very harmful radionuclides such as Tritium; and seem completely to ignore that organically bound tritium produces more serious health risks than does tritiated water for the same amount of tritium intake.
- In deciding whether a release should be permitted, the NRC does not consider local conditions, such as circulation patterns or the location of the sampling locations chosen by a licensee.
- The NRC relies on what Pilgrim reports, and only reviews Pilgrim’s discharge program and past releases annually. MDPH does not monitor the releases at all.

Holtec says that it is safe to dump one million gallons of radioactive contaminated water in the bay because it will be below NRC’s allowed threshold. However, Ken Buesseler a radio-chemist from Woods Hole Oceanographic Institute who studies the fate of radioactive elements in the ocean, says that it is not possible to determine the impact.

“Until we have an accounting of what different radioactive elements that will be released and their concentrations... actual values for the stored water today, by isotope, detection limit, volume.” ... [R]adioactive contaminants have vastly different fates in the ocean depending on their chemical nature. Some dilute and mix and are transported the same as water, like tritium. Others are more likely to be associated with marine sediments, like cobalt-60, and others accumulate in marine biota.

8. Holtec’s likely profit for decommissioning Pilgrim.

No one should shed any tears if safely transporting Pilgrim’s contaminated water to an existing off-site waste disposal site would add to Holtec’s decommissioning costs and might slightly reduce its likely outlandish profit.

Holtec has said that it paid only a “nominal amount, likely about \$1000, to acquire Pilgrim and its over one-billion dollar decommissioning trust fund.

A May 18th article in the Provincetown Independent was headlined “Holtec Expects to Make Huge Profit off Pilgrim Plant,” and “Finance report predicts that \$500 million or more would go to company.” <https://provincetownindependent.org/news/2022/05/18/holtec-expects-to-make-huge-profit-off-pilgrim-plant>. I expect Holtec’s decommissioning profit will be more than a billion dollars.

Why so much profit one might ask? The answer is remarkably simple.

- a. Many years ago, DOE entered into a contract with the nuclear industry in which DOE agrees to remove spent nuclear fuel from nuclear reactor sites by 1998. It has not done so. As a result,

the owners of nuclear power plants have regularly sued DOE to recover their spent fuel management costs, and they have regularly won.

In its most recent filing with the NRC, Holtec said that has spent \$237 million on spent fuel management costs, and that it expects to pay an additional \$342 million through the end of 2062, all from the decommissioning trust fund

Except for about \$40 million agreed to in the Settlement Agreement, Holtec has consistently refused to agree to put the money it will recover from DOE back into the DTF, even though money from the DTF was used to pay the very same spent fuel management costs that DOE will reimburse. No NRC regulation requires that money recovered from the DOE be used to reimburse the DTF.

It seems clear that Holtec plans to keep about **\$539 million** ($\$237 + \$342 - \40) as additional profit. The numbers in the Provincetown Independent article are essentially the same

- b. As said in the article, “Holtec’s latest financial report predicts the company will have \$252 million in the fund when the job is done, thanks to decades of accruing interest” on ratepayer money, not Pilgrim’s owners.
- c. Finally, and not mentioned in the article, a Holtec representative said that Holtec had included profit in its estimated decommissioning costs. My understanding is that, for a project of this magnitude that will extend over a number of years, a company normally would expect a profit in the range of not less than 25% to 35%.

According to Holtec’s most recent report to the NRC, the total cost of decommissioning will be \$1,158 billion. (<https://adamswebsearch2.nrc.gov/webSearch2/AccessionNumber=ML22084A059>). Assuming a 30% profit margin, Holtec’s profit from its billion dollar decommissioning job would be about **\$347 million**.

Add it all up, and it looks like a profit of \$1.1397 billion, about 98% of the entire cost of decommissioning – which is not half-bad for a “nominal” investment (likely \$1000).

The amount of money that Holtec will pocket is particularly outrageous when one realizes that only ratepayers put any money into the DTF. Neither Holtec nor any prior Pilgrim owner contributed a cent.

I will not dispute that Holtec is entitled to a reasonable profit – perhaps as much as 30% - for actually decommissioning Pilgrim.

But is there any fair or rational reason that Holtec should also be allowed to pocket the more than \$500 million that it will receive from DOE to reimburse costs that were paid with ratepayer money? Is there any fair or rational reason that Holtec should be allowed to keep the more than \$250 million that will be left-over from what only ratepayers contributed?

7. **The Commonwealth has the authority to enforce its laws and regulations that prohibit disposing radioactive waste into our protected bays.**

In the Settlement Agreement between it and the Commonwealth, Holtec explicitly agreed to “comply with all applicable environmental and human-health based standards and regulations of the Commonwealth.” Par. 10(l). These include:

1. MGL ch 270, Sec. 16 that makes it a crime to deposit or discharge “waste or other material of any kind ... or in or upon coastal or inland waters....”
2. MGL ch 22E, Sec. 5 that would make Holtec “liable, without regard to fault” to both the Commonwealth and to any person damaged by a radioactive release or the threat of one.
3. The protected Ocean Sanctuary Act (MGL Ch. 131A) and its associated regulations, particularly 301 CMR 27.05(1)(b) that prohibits “The dumping or discharge of commercial, municipal, domestic, or industrial wastes except as allowed in 301 CMR 27.05(2),” none of which apply to Pilgrim’s potential discharge, and 27.06(b) which says, among other things, that “In the Cape Cod Bay Ocean Sanctuary, within Plymouth, Kingston, Duxbury Bay, landward of a line between Gurnet Point and Rocky Point, no new or modified discharge shall be authorized in a depth of water that at mean low tide is less than 30 feet.”

Because Holtec has contractually agreed to comply with state standards and regulations, **preemption is not an issue here.**

The Massachusetts Attorney General Office would be very surprised if Holtec took the position that preemption voided the Settlement Agreement and that it could simply walk away from what it agreed to.

Preemption might be important *if there were no agreement*. But there is an agreement. Preemption does not mean that Holtec and the state cannot enter into a legally-enforceable contract under which both parties have agreed obligations. Preemption does not mean that such an agreement is void and that the state cannot enforce it.

For example, the state of Vermont and the owners of the Vermont Yankee Nuclear Power Stations agreed that the plant owners would transport two (2) million gallons of contaminated water to a waste disposal facility in Idaho. The NRC said that the plant owner could do so because that method of disposal was authorized by NRC regulations. No one has suggested that contractual agreement is somehow void and unenforceable.

The Settlement Agreement is a valid and enforceable contract.

Even if there were no Settlement Agreement, Massachusetts would still be able to enforce its laws to prevent Holtec's threatened dumping.

I would far prefer to focus on what Holtec has agreed and not get into an extended legal argument. But there are those who say that the state is preempted from doing anything. They forget that the U.S. Supreme Court has decided four Nuclear Preemption cases. In each, the nuclear industry tried to use preemption to avoid state laws. In all four, the nuclear industry lost.

- a. *Pacific Gas & Elec. Co. v. State Energy Resources Conservation and Development Comm'n*, 461 U. S. 190 (1983). The case involved a California law prohibiting approval to build nuclear plants unless an adequate method existed for disposing of spent nuclear fuel. 461 U.S. at 197-918. The Court upheld the California law because it was enacted for economic concerns. 461 U.S. at 5, 213-216.

If an “economic purpose [is] the rationale for enacting” a statute, “the statute lies outside the occupied field of safety regulation.” (461 U.S. at 212, 216).

“Congress has occupied not the broad field of “nuclear safety concerns,” but only the narrower area of how a nuclear plant should be constructed and operated to protect against radiation hazards. 461 U.S. at 424 (concurring opinion)

No existing Massachusetts law is directed to how Pilgrim was constructed or operated. Neither is the proposed bill.

- b. *Silkwood v. Kerr-McGee Corp.*, 464 U. S. 238 (1984). Karen Silkwood suffered radiation injuries after a nuclear plant accident. The Court rejected Kerr-McGee's contention that the Atomic Energy Act preempted state law authorizing the recovery of punitive damages.

“As we recently observed in *Pacific Gas & Electric Co. v. State Energy Resources Conservation & Development Comm'n*, [461 U. S. 190](#) (1983), state law can be preempted in either of two general ways. If Congress evidences an intent to occupy a given field, any state law falling within that field is

preempted. (Citations omitted) If Congress has not entirely displaced state regulation over the matter in question, state law is still preempted to the extent it actually conflicts with federal law, that is, when it is impossible to comply with both state and federal law (*citation omitted*), or where the state law stands as an obstacle to the accomplishment of the full purposes and objectives of Congress. (Citations omitted)

Here, Holtec can comply with both Massachusetts and federal law. Pilgrim has at least three NRC-permitted options or disposal of its contaminated water. A state law that might effectively require Holtec not to use the dumping option but leaving it free to use either of the other two would not “frustrate the objective of the federal law.”

- c. *English v. General Elec. Co.*, 496 U. S. 72 (1990). In *English*, the Court found that a whistleblower laboratory technician’s complaint for intentional infliction of emotional distress caused by several perceived violations of nuclear-safety standards at a GE facility, including the failure of her co-workers to clean up radioactive spills in the laboratory, was not preempted.

“The real issue, then, is whether petitioner's tort claim is so related to the "radiological safety aspects involved in the . . . operation of a nuclear [facility] that it falls within the preempted field. In addressing this issue, we must bear in mind that not every state law that in some remote way may affect the nuclear safety decisions made by those who build and run nuclear facilities can be said to fall within the preempted field. . . . [F]or a state law to fall within the preempted zone, it must have some direct and substantial effect on the decisions made by those who build or operate nuclear facilities concerning radiological safety levels.” 496 US at 85

No Massachusetts law or regulation has any “direct and substantial effect” on any nuclear safety decisions made by those who built and run Pilgrim. Neither does the proposed bill. Pilgrim was built between 1967 and 1972, and it stopped generating electricity in 2019. It is now being decommissioned. Pilgrim’s owner admits that, in the decommissioning process, it has other acceptable options as to how it disposes of its contaminated water.

- d. *Virginia Uranium, Inc. v. Warren*, 587 U.S. ____ (2019). The Virginia law at issue flatly prohibited uranium mining in the Commonwealth of Virginia. The Court upheld the state law, making clear that a litigant relying on preemption “must point specifically to ‘a constitutional text or a federal statute’ that does the displacing or conflicts with state law” (Slip Op., 3); and pointing out that Congress specifically amended the Atomic Energy Act to add a new Section 2021(k) “out of apparent concern that courts might (mis)read” other amendments “as prohibiting States from regulating any activity even tangentially relate to nuclear power.” (Slip Op., 5-6)

Slip Op., 3: Invoking some brooding federal interest or appealing to a judicial policy preference should never be enough to win preemption of a state law; a litigant must point specifically to “a constitutional text or a federal statute” that does the displacing or conflicts with state law.”

Slip Op., 8: “[T]he Court expressly dismissed the notion that §2021 establishes the federal government as “the sole regulator of all matters nuclear.”

These Supreme Court decisions make clear that the Massachusetts laws and regulations with which Holtec has agreed to comply are not preempted, and can be enforced against Holtec, even if there were no Settlement Agreement.

The EPA also says that states have the authority to set specific limits on radionuclides in discharges.

“Federal NPDES regulations do not set specific limits on radionuclides in discharges. States have the authority to establish these limits, and state anti-degradation policies designed to protect the quality of certain water bodies support source water protection efforts might restrict the levels of radionuclides in discharged waste. It is very unlikely that a state will allow many discharges from treatment systems removing radionuclides, where the radionuclides are highly concentrated. Treatment technologies designated for radionuclide removal also remove co-occurring contaminants for which NPDES regulations set limits, further restricting disposal options.”

https://cfpub.epa.gov/safewater/radionuclides/radionuclides.cfm?action=Rad_Disposal%20Options

In sum, Massachusetts has existing laws and the authority to enforce them to prevent Holtec’s threatened discharge. The question is whether it will use its authority; and as Governor insist that the state does so.