

**Pilgrim Will Close May 31, 2019**

## **Decommissioning**

**Mary Lampert**

**Town of Duxbury Nuclear Advisory Committee**

**May 18, 2017**

# Overview

## What is Likely to Happen at Pilgrim

- Spent Fuel
- Site Restoration
- Decommissioning Time Line
- Economics



# OVERVIEW

What is Decommissioning?  
What Should be Done to Protect Our Communities?

# What is Decommissioning?

- **Most people assume decommissioning Pilgrim will include:**
  - Removing all radioactivity
  - Dismantling and removing the reactor
  - Demolishing and removing all existing buildings/structures
  - Safely storing spent fuel and other wastes until they are eventually moved off-site
  - Removing any contaminated soil
  - Restoring the site to its original condition
- **It won't!**

# NRC's Definition of Decommissioning

- The NRC's definition of decommissioning is much narrower:
  - **The safe removal of a facility from service and reduction of residual radioactivity to a level that permits termination of the NRC license.”** (10 CFR 50.2)
- The NRC's definition **does not include**:
  - The removal or storage of spent fuel
  - Demolition of decontaminated structures
  - Site restoration activities after residual radioactivity has been removed  
(NRC Regulatory Guide 1.202, NUREG 1537, NUREG 1577)
- NRC Rules restricts use of the Decommissioning Trust Fund to reducing “radiological radioactivity.”
  - An important question: How low must the radioactivity be reduced, and how is it verified?
  - Another important question: Who pays for any shortfall?

# NRC's Three Decommissioning Options

## 1. **Decontamination (DECON)**

Structures and components contaminated with radioactivity are either cleaned, or removed and shipped to a licensed radioactive dump site

## 2. **Safe Storage (SAFSTOR)**

The facility is placed in nuclear limbo for up to 60 years for later decontamination

## 3. **Entombment (ENTOMB)**

The facility is basically covered over in cement and left forever.

- Entombment has never been used.

# **WHAT SHOULD BE DONE TO PROTECT OUR COMMUNITIES**

# TO PROTECT OUR COMMUNITIES

## **Spent Fuel**

Spent nuclear fuel assemblies should be moved out of the pool and into hardened dry casks as soon as possible

## **Finances**

The Licensee (e.g., Entergy) pays for decommissioning in full, not the Commonwealth's taxpayers

Decommissioning Trust Fund – Restrict its use to decommissioning; not taxes and operating expenses.

## **Timing**

Decommissioning should occur ASAP following closure. Do not defer dismantlement/cleanup for decades.



# TO PROTECT OUR COMMUNITIES (Continued)

## **Site Restoration:**

- Site returned to “greenfield” for unrestricted use - radioactivity and chemical contamination cleaned up

## **Prohibit rubbleization:**

- Above-grade structures, including the concrete containment building, are demolished into rubble and buried in the structure's foundation below ground. The site surface is then covered, regraded, and landscaped. This saves the expense of moving the building pieces to a different site.

## **NEPA:**

- Restore the National Environmental Policy Act (NEPA) compliance. Decommissioning is a major federal action and requires significant oversight, EPA participation, and public/state formal hearing rights

## **Public Meetings:**

- Public participation is limited. No cross-examination or discovery

# TO PROTECT OUR COMMUNITIES (Continued)

## **Public Safety:**

- Retain current offsite emergency planning, funded by licensee, until spent fuel pool is emptied (Support H.1147, MA Legislature 2017)
  - Continue licensee-funded offsite emergency planning, on a reduced level, until fuel leaves the site
- MDPH continue and expand offsite radiological monitoring and onsite tritium monitoring. Entergy continue to provide funding (Support H. 1133, MA Legislature 2017)

## **Workers:**

- Skilled workforce retained for decommissioning. Provide job training

# To Protect Our Communities (Continued)

**NRC Oversight:** Reinstate NRC inspections and oversight during decommissioning

- Currently the NRC has little to no meaningful oversight during decommissioning. There are no resident inspectors and no regular inspections.
- Lack of NRC oversight means licensee compliance with regulations is impossible to verify and enforce on a timely basis. Lack of regular reporting leaves the public in the dark.

# **WHAT IS LIKELY TO HAPPEN AT PILGRIM?**

**No matter who owns Pilgrim**

**Spent Fuel**

**Site Restoration**

# **No Matter Who Owns Pilgrim**

## **SPENT FUEL**

# Spent Nuclear Fuel

- **Pilgrim started generating electricity in 1972.**
- **All of the nuclear fuel** that Pilgrim has ever used is now on-site
- **Most of the spent (i.e., used) fuel** is now stored in a spent fuel pool located in the upper floor of the reactor.
- **Some of the spent fuel** is now stored in dry casks on a concrete pad outside of, but near to, the reactor building.
- **Some fuel** will remain in the reactor until Pilgrim shuts-down.
- **Eventually,** all of the spent fuel will be moved into dry casks.
- **But the dry casks of spent fuel** will remain on site for decades, perhaps indefinitely.

# Pilgrim's Spent Fuel Pool

## The Problem

- **Location:** Pilgrim's pool is located in the upper floor of the reactor. It is outside primary containment with a thin and vulnerable roof overhead.
- **Crowded:** Pilgrim's pool was designed to hold 880 used fuel assemblies; it now holds 2,822 (November 2016). When Pilgrim shuts-down, 580 fuel assemblies will be moved from the reactor into the pool. Maximum licensed capacity is 3,859
- **Boraflex** panels were added between Pilgrim's pool assemblies to prevent criticality – Entergy says about 900 are degrading (April 2017)
- **Fire:** If pool loses water simply to the top of the assemblies, a pool fire can occur, releasing radiation

# CONSEQUENCES OF A SPENT FUEL POOL FIRE

- 2016 Study: Major Spent Fuel Pool fire could contaminate as much as 100,000 square kilometers of land (38,610 square miles; almost four times the area of Massachusetts) and force the evacuation of millions of people
- 2006 Pilgrim Study: \$488 Billion dollars, 24,000 cancers, hundreds of miles uninhabitable
- These risks will be reduced by transferring all the spent fuel out of the pool to dry casks as soon as possible after shutdown.

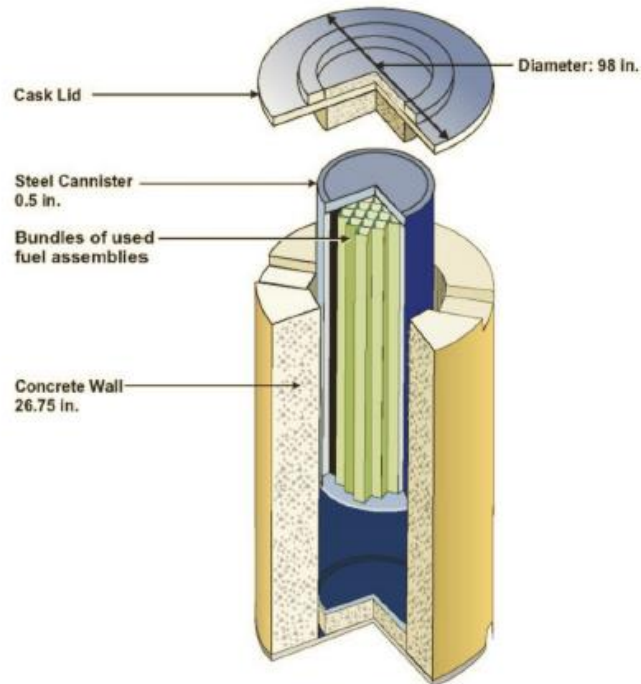


# Economics Will Drive Entergy's Decision When to Empty the Pool

- Before shutdown, Entergy has to pay for moving fuel from the pool into casks storage out of its pocket
- Post-shutdown, NRC allows use of the Decommissioning Trust Fund to pay to move fuel from the spent fuel pool into dry casks.
- Moving spent fuel into dry casks when operations cease will allow Entergy to dramatically reduce its work force and spent fuel storage costs.
  - When all VY's fuel has been moved into dry casks, Entergy expects to be able to reduce the work force to fewer than 15.
- The fuel that is now in Pilgrim's reactor and spent fuel pool probably will be moved into dry casks within 5 or so years after Pilgrim shuts down.

# DRY CASK STORAGE

## Dual Purpose Storage Cask\*



(Holtec International  
HI-STORM 100)

Overall Length: 197 to 225 in.  
Loaded Weight: 360,000 lbs.  
Typical Payload: 24 PWR Bundles

\* Storage and Transportation



Dry Casks

# DRY CASK STORAGE SAFETY ISSUES

Dry cask storage is far safer than pool storage, but there are problems... potential leakage

**According to the Nuclear Regulatory Commission (NRC)**

- The thin (0.5”) stainless steel canisters may crack within 30 years.
- Currently, no technology exists to inspect, repair or replace cracked canisters.
- With limited monitoring, we will only know after a canister leaks radiation.

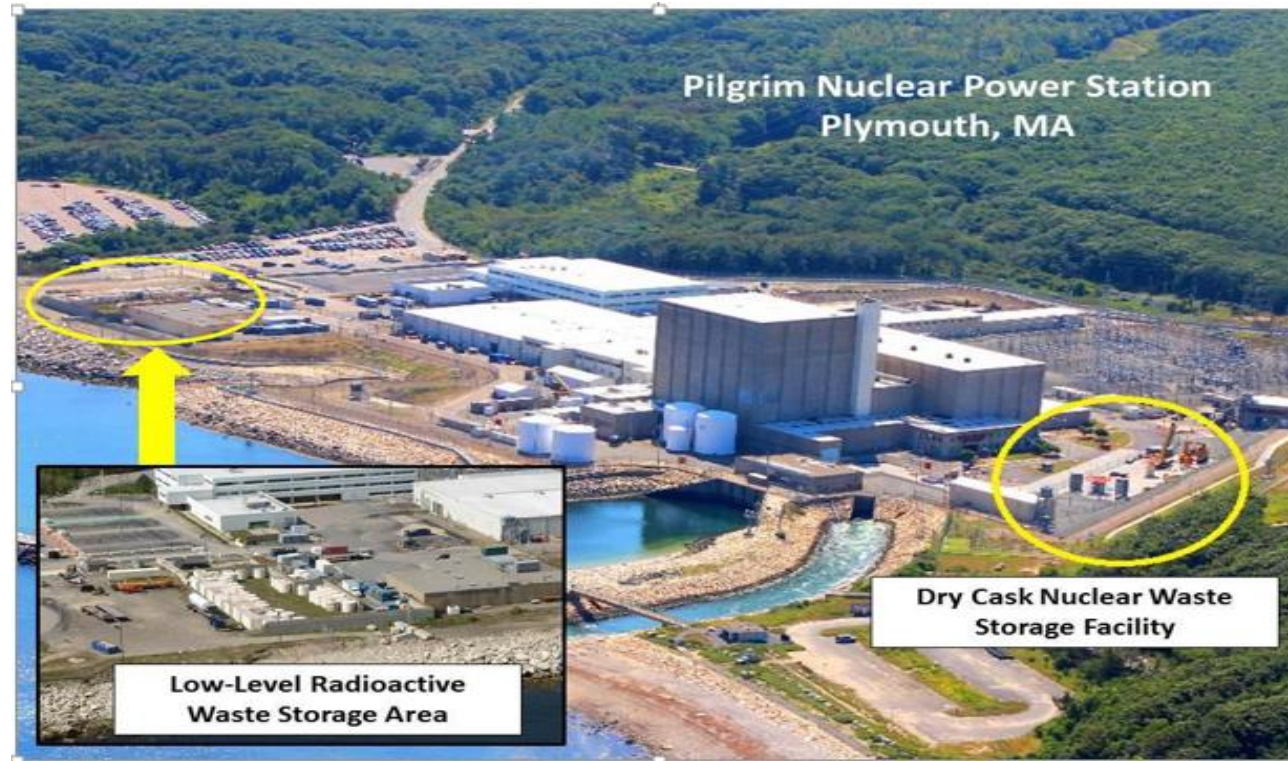
**Each dry cask contains ½ as much Cesium-137 as the total released at Chernobyl**

# Pilgrim's Dry Cask & LLRW Storage Plan

**Located Close To Bay: Vulnerable to: Sea-Level Rise, Coastal Storm Damage, Flooding, Surge, Salt Water Degradation**

Dry cask pad 150' from shore, 4' above FEMA Flood Level

LLRW Casks 30' from coastal bank





# Pad Located Close To Reactor Building

## Will it interfere with dismantling reactor building?



# Pilgrim's Dry Cask Storage Plan Security



# Vulnerability: Cask Shell Canister = 0.5" (1.3 cm)

## Cask Concrete Wall = 26.75" (68 cm)

**Table IV-3**

**Performance of US Army Shaped Charges, M3 and M2A3**

Target Material	Indicator	Value for Stated Type of Shaped Charge	
		Type: M3	Type: M2A3
Reinforced concrete	Maximum wall thickness that can be perforated	150 cm	90 cm
	Depth of penetration in thick walls	150 cm	75 cm
	Diameter of hole	• 13 cm at entrance • 5 cm minimum	• 9 cm at entrance • 5 cm minimum
	Depth of hole with second charge placed over first hole	210 cm	110 cm
Armor plate	Perforation	At least 50 cm	30 cm
	Average diameter of hole	6 cm	4 cm

**Notes:**

- (a) Data are from US Army Field Manual FM 5-25: Army, 1967, pp 13-15 and page 100.
- (b) The M2A3 charge has a mass of 5 kg, a maximum diameter of 18 cm, and a total length of 38 cm including the standoff ring.
- (c) The M3 charge has a mass of 14 kg, a maximum diameter of 23 cm, a charge length of 39 cm, and a standoff pedestal 38 cm long.



# Dry Cask Storage A Better Plan

Earth/gravel berms should surround each cask  
and hide from ground-level view.



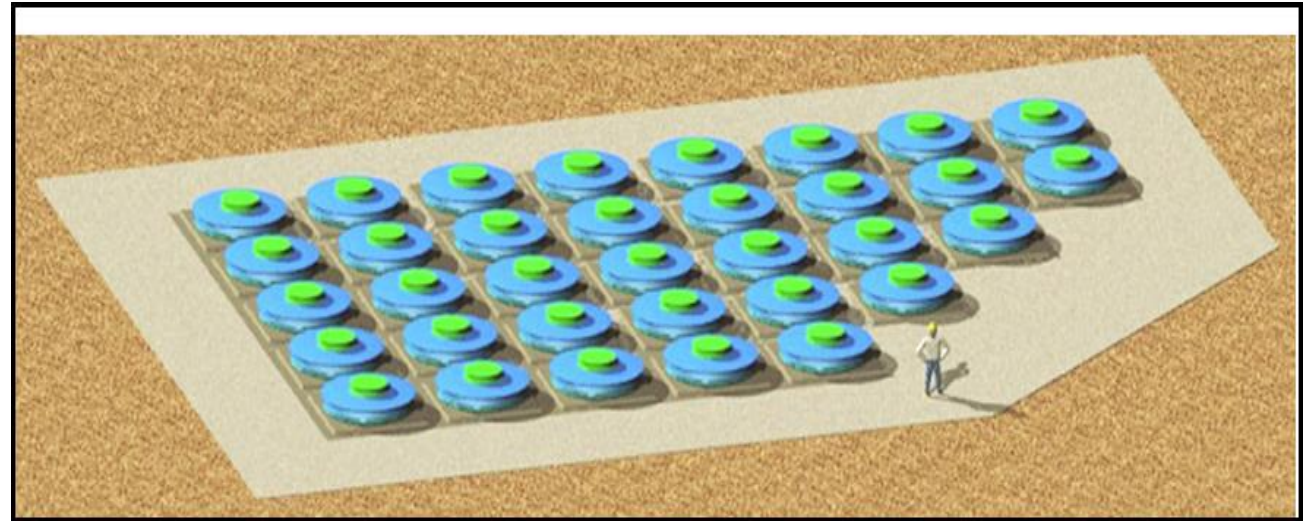


# Dry Cask Storage – Other Better Plans

Casks in Reinforced Concrete Building  
Submerged Casks,  
Holtec-Hi-Storm U casks

Better security but unable to inspect.

Blast Shield



# **No Matter Who Owns Pilgrim Spent Fuel After Shutdown**

- Pilgrim's spent fuel will remain on-site until the Department of Energy moves it to an off-site storage facility that is ready to take Pilgrim's fuel
- No offsite storage facility now exists. None have been either approved or developed, or will be ready to accept spent fuel for many years.
  - Proposed permanent repository - Yucca Mountain
  - Proposed Interim Sites - West Texas & New Mexico

# No Matter Who Owns Pilgrim Absent Offsite Solutions

## NRC's Nuclear Waste Rule:

- **Allows** spent fuel to stay in either the pool or in dry casks for 60 years after plant shut-down.
- **Recognizes** that dry casks of spent fuel may remain on site during subsequent 300 years.
  - Says pad and casks will be changed every 100 years.
  - Who will pay?

**No Matter Who Owns Pilgrim**

**Site Restoration**

# Site Restoration

## How Clean is Clean?

### Radiation Cleanup Standard

- **NRC Standard:**
  - Release site unrestricted use: **25 millirem** per year total effective dose equivalent to an average member of the critical group - limit includes the dose from drinking groundwater
  - Release site restricted use: **100 or 500 millirem** for restricted use.
- **Massachusetts** has **not set any standard** that applies to decommissioning reactor sites

### Questions

- How is dose verified, and does the state have a role? How far down into the soil is soil tested?
- Is Pilgrim required to return Pilgrim's site to "greenfield"- for unrestricted use?

# What does millirems/year mean?

National Emissions Standards for Hazardous Pollutants (NESHAPS) for Radionuclides  
1989-Risk Assessments for Boiling Water Reactors  
Elizabeth Bourque, DPH (09.16.91)

Lifetime Cancer Risk		Lifetime Exposure (millirem/per year)
Fatal	1 in 1,000,000	0.03
Incidence	1 in 1,000,000	0.015
Fatal	3 in 100,000	1
Fatal	3 in 10,000	10
Fatal	3 in 1,000	100
Fatal	1.5 in 100	500
<b>Total Cancer Incidence</b> resulting from whole body exposure is 1.5-2.0 times the mortality risk		<b>Reproductive disorders</b> occur at lower levels of radiation exposure than cancer.
The level of risk for radionuclides is significantly higher than for chemicals.		<b>DEP's risk level goal</b> for a mixture of chemicals is lifetime cancer incidence risk of 1 in one hundred thousand, $10^{-5}$ ; DEP's risk level goal for one chemical is lifetime cancer incidence risk of 1 in a million, $10^{-6}$

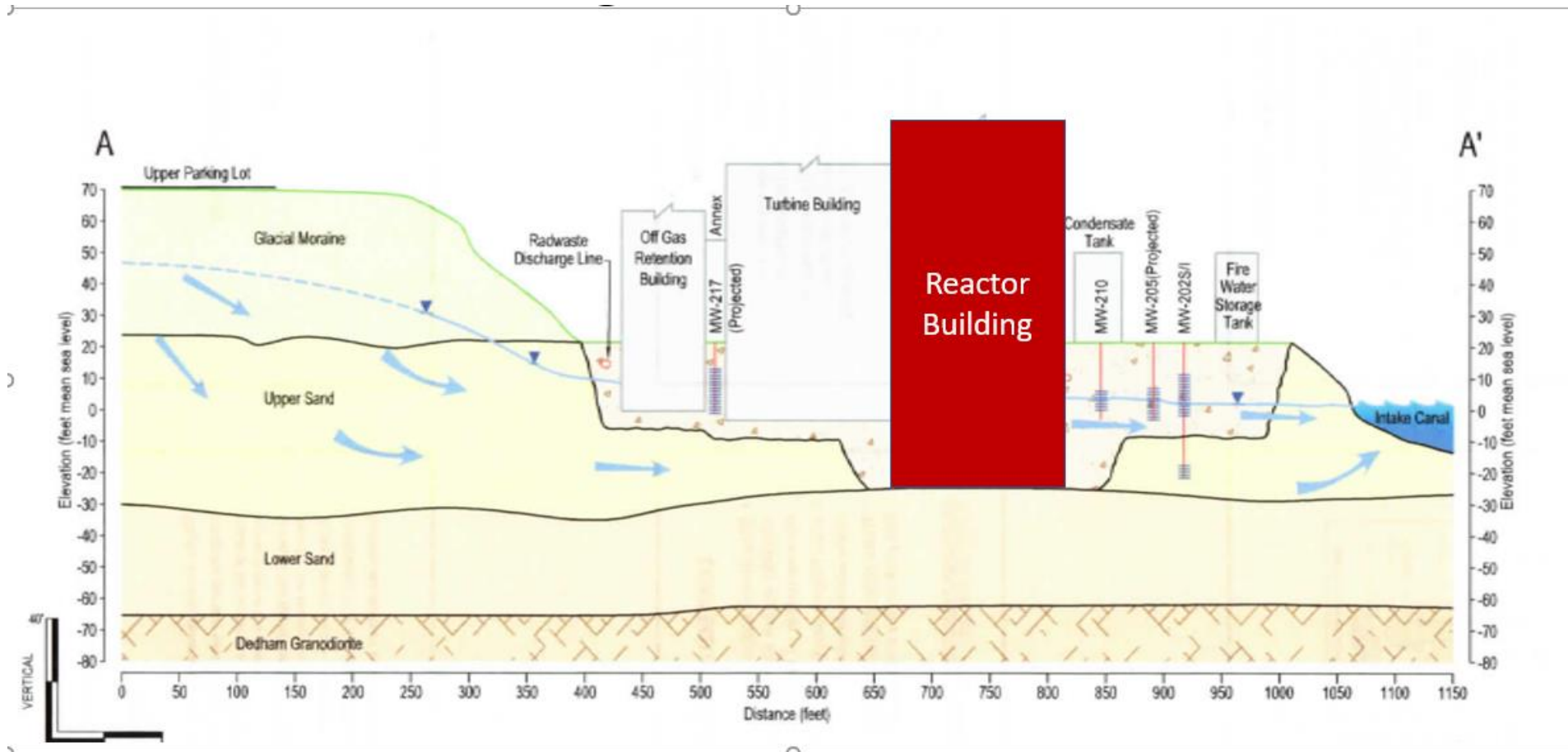
# **Site Restoration**

## **Not all Onsite Structures are Removed**

### **What is removed?**

- Major radioactive components, such as the reactor vessel, steam generators, radwaste building, or other components that are comparably radioactive are removed
- These structures removed to 3 feet below grade. The reactor building is 25.5' below mean sea level.
- Structures that are not contaminated are not removed.

# Pilgrim Elevations





# Site Restoration

## Rubblization

- Saves a licensee many millions in waste disposal costs during decommissioning
- Remove all equipment from buildings
- Decontaminate surfaces
- Demolish above-grade structures into rubble - bury in the structure's foundation that is left below ground
- Could result in material ranging from gravel-size to large concrete blocks, or a mixture of both.
- Site surface then covered, regraded and, landscaped.

# Site Restoration

## Rubblization – Disadvantages

- Contaminated rubble likely to leach into soil impacting groundwater and runoff to other locations both onsite and offsite.
- Water intrusion into the rubble is likely at Pilgrim due to proximity to the water table (groundwater table is typically at about 1' below mean sea level) and flooding.
- Potential excavation of contaminated building rubble and soil following decontamination of site for use later in new construction material or as fill, thus causing radiation exposures.
- Provides less stable surface than soil/sand due to inevitable spaces between rubble
- Constitutes, in reality, a new low level radioactive waste facility at Pilgrim, but without NRC requirements to provide protections equivalent to off-site disposal facilities for low-level radioactive waste. It also runs counter to existing national policy of encouraging states to manage disposal on a regional basis. Pilgrim currently lacks access to a low level radioactive waste storage facility.

# Vermont Yankee Site Restoration Standards

## NorthStar Proposal

**Radiological Dose Limit** - NorthStar proposes 15 millirem/per year. What dose modeling will be used is unclear.

**Sub-Surface Structures/Piping** – NorthStar proposes

- removing underground structures down to 4 feet below the surface
- removing all material that contains asbestos regardless of depth
- Using some “clean” concrete as fill at the site- rubblization

**Non-Radiological Cleanup Criteria** – unclear

**End Use of Property** - unclear

# SITE RESTORATION-NRC PROCESS

- **National Environmental Policy Act (NEPA)** analysis not required
- **Post Shutdown Decommissioning Analysis Report (PSDAR)** issued within 2 years after shutdown. It is a brief document with few details. It must discuss why environmental impacts associated with site's decommissioning activities have already been addressed in previous environmental analyses- such as during Pilgrim's license renewal process; or do another analysis.
- **Site characterization** submitted at least 2 years before license termination. It should be submitted at the beginning of the decommissioning process. Waiting to the end allows contamination to migrate and risks that most or all of the decommission funds will have been spent.

# **WHAT IS LIKELY TO HAPPEN AT PILGRIM?**

**If Energy continues to own Pilgrim**

**Decommissioning Scenario**

**Economics**

# Decommissioning Scenario

- Entergy has said that it plans to use SAFSTOR
  - Not required to start decommissioning until about 50 years after shutdown
  - Then (hopefully) complete decommissioning by 60 years after shutdown
- Entergy's reason for using SAFSTOR is that there is now not enough money in the DTF.

# Problems with SAFSTOR

- Delays economically productive use of site
- Property values nearby remain depressed
- Contamination onsite - not identified and cleaned up - providing opportunity for contamination to spread – both on and offsite
- Offsite emergency planning will be eliminated after operations cease - placing unfunded burden on state and local communities
- Contributions to the state for environmental monitoring also likely will be eliminated - placing unfunded burden on Massachusetts taxpayers
- Workers with specific knowledge of spills and other specific problems will have retired or been let go - reducing likely effective cleanup

# ENTERGY'S DTF - INSUFFICIENT FUNDS

1. DTF only covers reducing radioactivity. It does not include spent fuel storage and management costs, and assumes unrealistically low site-cleanup costs.
2. DTF only represents cost of decommissioning today.
3. Entergy likely will use the fund to pay non-decommissioning expenses, leaving less to grow. The NRC has already allowed it to raid Vermont's fund to pay for:
  - Spent Fuel Management- \$225 million
  - Property Taxes -\$1.2 million
  - Emergency Planning & Insurance-\$5.4 million
  - Legal & Lobby Fees
4. NRC's assumption DTF will grow enough to make up shortfall is not realistic.

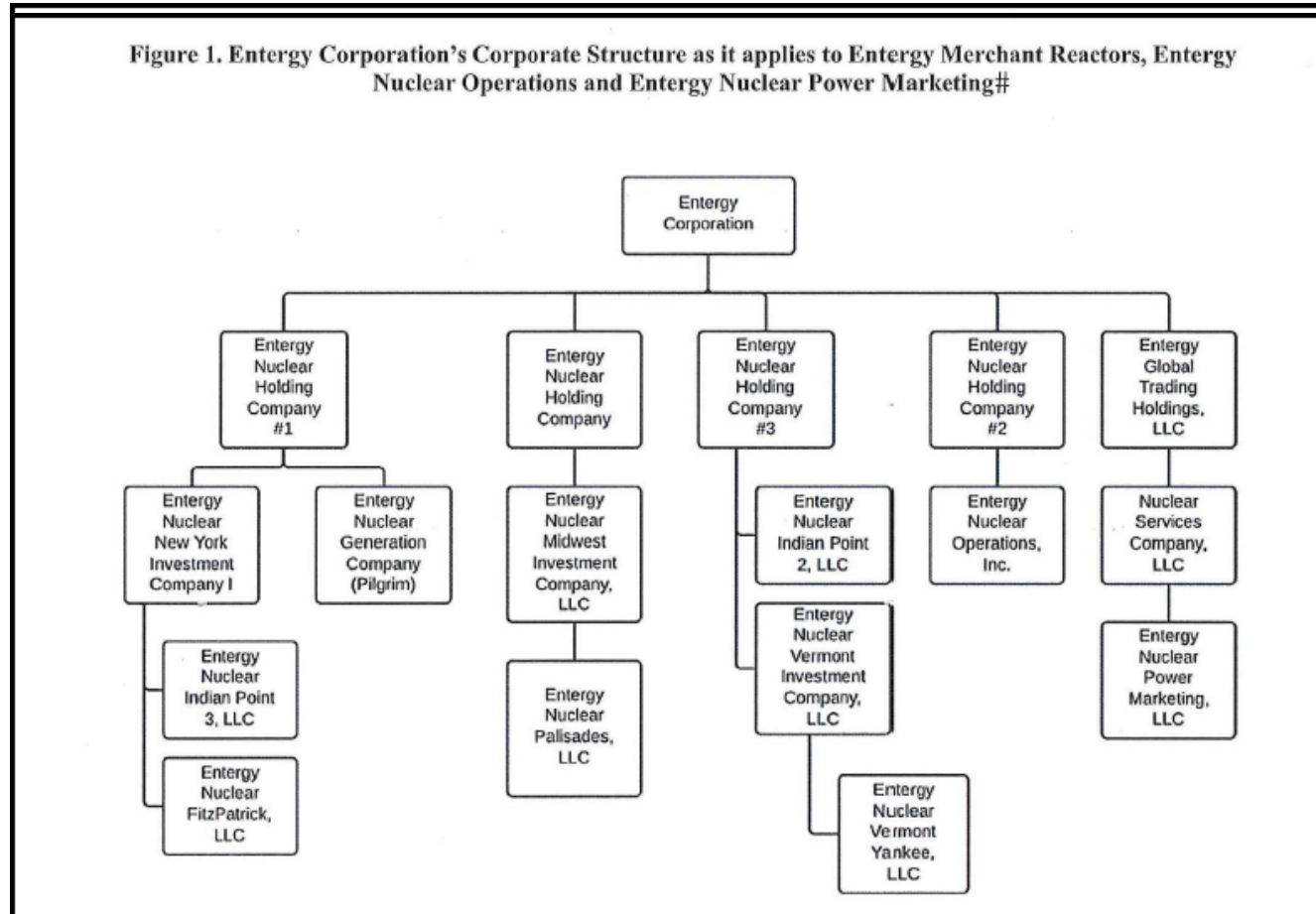


# ENTERGY'S DTF - INSUFFICIENT FUNDS

- **Pilgrim's Decommissioning Trust Fund (DTF) had \$895.71 million (12/31/15)**  
<https://www.nrc.gov/docs/ML1609/ML16090A355.pdf>
  - Entergy estimated that it would cost **\$1.243** billion (2014 dollars) to decommission Vermont Yankee (VY) - VY is smaller than Pilgrim.
  - Entergy's Pilgrim DTF now at least **\$348 million** less than the VY estimate (if work started today).
  - If decommissioning is delayed for 50-60 years, the shortfall may be **billions**.
- **NRC hopes DTF investments will grow more than increased decommissioning costs. This is not realistic. It is also contrary to the NRC's own estimates.**
  - NRC: The future value of decommissioning will be much more than the NRC formula calculated today.
  - NRC estimate: DTF will grow 3.5% to 5% above inflation
  - NRC estimate: Decommissioning costs will increase faster - 5% to 9% annually
  - Decommissioning Costs have risen more than 60% since 2008 (Callan Associates 2015 Decommissioning Funding Study)

# Will Entergy Fund the Shortfall?

## Pilgrim is a Limited Liability Company (LLC)



# Entergy told Vermont Legislators it has no financial responsibility after the 60 year SAFSTOR period

|According to the AP:

An Entergy Corp. official said Wednesday the company is offering no guarantees it will pay to decommission its retired Vermont Yankee nuclear power plant if the job's still not done by the end of a 60-year period.

Entergy Vice President Michael Twomey told members of two Vermont legislative committees that if decommissioning isn't done by the end of the period, known in the nuclear industry as "SAFSTOR," he expects there would be litigation, with the state and Entergy taking different positions<sup>3</sup>.

# HOW TO PROTECT OUR WALLET

## Support Legislation (S.1837 & H.1765)

### Establishing funding for postclosure activities

- Both bills require any Massachusetts commercial nuclear reactor to pay an **annual \$25,000,000 post-closure funding fee**.
  - Both bills help insure that taxpayers won't have to pay. They also encourage prompt decommissioning.
- Money is placed in a trust fund in office of the State Treasurer.
- After reactor completely decommissioned, any excess in fund returned to the plant owner, with interest.

# **WHAT IS LIKELY TO HAPPEN AT PILGRIM?**

## **If Entergy Sells Pilgrim**

**NorthStar  
Decommissioning Scenario  
Economics**

# NorthStar

- Has agreed to buy and decommission Vermont Yankee.
- Has filed an application with the NRC to acquire Vermont Yankee's license.
- If the application is approved,
  - NorthStar, not Entergy, will decommission Vermont Yankee.
  - Massachusetts should expect Entergy to reach a similar agreement with respect to Pilgrim.

Source:

<http://publicservice.vermont.gov/sites/dps/files/documents/DCAP/1%20Entergy-Northstar%20License%20Transfer%20NDCAP%20Presentation%202016-12-01.pdf>

# Who is NorthStar?



**Owner & Lead**

## **Owner and Decommissioning Lead Partner**

- World's Largest Turnkey Decommissioning & Facility Services Contractor
- Abatement & Demolition Contractor
- Extensive nuclear experience
- NorthStar CEO, Scott E. State, P.E. – Chief Nuclear Officer for owner

**Teaming Partners**



## **Vessel and Internals Segmentation / Spent Fuel Support**

- World's leading nuclear fuel and services provider
- Leading expertise in vessel and internals segmentation
- BWR experience: Wüergassen Reactor 320-ton RPV



## **Engineering and License Transfer / Termination Support to Owner**

- Founded in 1898 – 100% Employee Owned
- Over 5,300 professionals – 35 offices worldwide
- Global Full-Service Engineering & Environmental Solutions Firm



## **Waste Management, Packaging, Transportation and Disposal**

- NRC licensed for Class A, B, C & Exempt Low-Level Radioactive Waste
- Texas Compact disposal site
- Pending applications – GTCC and Centralized Interim Storage Facility

WE POWER LIFE



# NorthStar – Entergy Agreement

- Is contingent on:
  - Approval by NRC and Vermont Public Service Board (PSB)
  - Entergy placing all spent fuel into dry casks by 2018 – 4 years after shutdown
  - PSB adopting NorthStar's proposed Site Restoration Standards
- If the agreement goes forward, NorthStar will:
  - Initiate onsite work by 2021
  - Decommission and restore nearly the entire VY site by 2030 - 9 years
  - Provide financial commitments to assure completion of decommissioning
  - Obtain NRC approval for partial release of the site (except the Independent Spent Fuel Storage Installation (ISFSI) and switchyard areas) by 2030, to allow productive use of this parcel



# **NorthStar's Partner - Waste Control Specialists FINANCIAL PROBLEMS**

- Waste Control Specialists currently stores low-level radioactive waste in Andrews County TX. It recently asked the U.S. Nuclear Regulatory Commission to temporarily suspend a review of its application to store spent fuel because of financial burdens (04/19/17)
- Energy Solutions, a Salt Lake-city based waste company, is trying to buy Waste Control Specialists. The U.S. Department of Justice is suing to block the merger, arguing it would essentially create a monopoly on radioactive waste disposal.
- The outcome could impact NorthStar's bid to buy Vermont Yankee or any bid to buy Pilgrim.

# **If Energy Sells Pilgrim to NorthStar What to Expect?**

## **Decommissioning Scenario**

# Accelerated Decommissioning

## Vermont Yankee example

### Current ENVY Timeline under PSDAR



### Proposed Timeline under NorthStar License Transfer Application



\* Excludes ISFSI

\*\* Assumes DOE Fuel Pick-Up Complete in 2052

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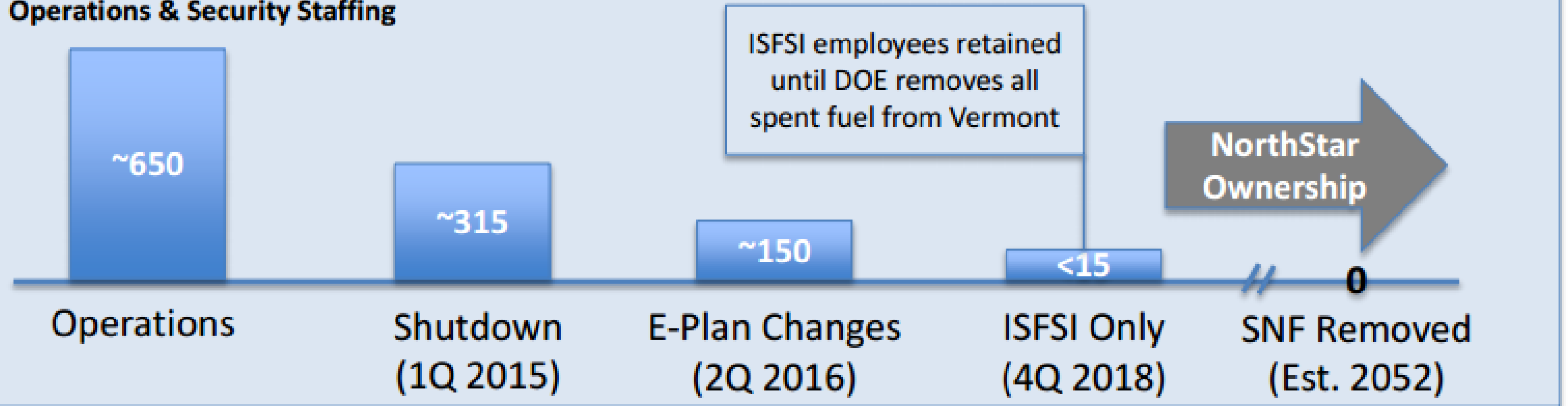


# Reduction in Staffing

## VY Staffing Projections

### Decommissioning Milestones

Operations & Security Staffing



# Nuclear Waste

## Spent Fuel (high level radioactive waste)

- NorthStar's partner WCS has a pending application for an interim spent fuel storage facility in Texas that would also accept Greater-Than-Class C waste.
  - The application is on hold due to finances. WCS is waiting Justice Dept. approval for Energy Solutions to buy WCS.
- Holtec also has an application for an interim site in New Mexico.

## Low Level Radioactive Waste (waste other than spent fuel)

- Massachusetts does not have access to an offsite storage facility
- However, WCS has a low level waste storage facility in Texas.
  - It may become available to accept Pilgrim's waste if NRC approves NorthStar's bid to buy Vermont Yankee and then makes an offer and gets approval to buy Pilgrim.

# **If Energy Sells Pilgrim to NorthStar What to Expect?**

## **Economics**

# Economics

## NorthStar's VY Cost Projections

- **\$498.45 million:** NRC license termination costs
- **\$25.3 million:** site restoration
- **\$287.8 million:** long-term spent fuel management - revolving mechanism whereby no more than \$20 million from the decommissioning trust fund will be tied up in spent-fuel management at any given time.
- **\$811.5 million:** total costs at Vermont Yankee from 2019 to 2052
  - Entergy's DTF now has \$895.71 million
- **\$17 million:** amount expected to remain in trust funds after cleanup

# NorthStar's VY Financial Commitments

- NorthStar has committed additional revenues of \$125 million in a “support agreement” as well a \$25 million “letter of credit” (payable to a “secondary decommissioning completion trust”) if it doesn't meet its deadlines.
- How does NorthStar intend to deal with financial short falls if these funds prove inadequate to complete cleanup?



# VY Financial Questions

- If NorthStar's promised "additional revenues" prove inadequate to complete cleanup, how does NorthStar intend to deal with financial short falls?
- Will NorthStar pay to guard the spent fuel - about \$ 5 million a year- if DOE does not reimburse NorthStar for those costs? Who will pay to replace casks? Is NorthStar, DOE or Holtec responsible? Is Holtec a limited liability company? What guarantee did Holtec provide when it provided the casks?
- Entergy said the Vermont Yankee decommissioning fund is inadequate to do a rapid cleanup of the site. If Entergy doesn't believe the fund is adequate, why should we believe NorthStar can do it?
- Are NorthStar and its partners limited liability companies?

# NorthStar Ownership Worries

## Quick, Cheap and Dirty?

- U. Mass-Amherst's Institute for Nuclear Host Communities told the Vermont Nuclear Decommissioning Citizens Advisory Panel that the sale to NorthStar and its decommissioning plan could create incentives to cut corners.
- Some citizen groups fear the cleanup will be cheap and dirty.
- Will there be enough money, particularly if there are significant site restoration costs? Are NorthStar and its affiliates limited liability companies?
- What guarantees and liabilities does Holtec, the cask manufacturer, have?

# **Decommissioning Citizens Advisory Panel**

Established by Legislature -section 14, Chapter 188, Acts of 2016

- Twenty-One members including:
  - State officials and members appointed by state officials;
  - Entergy officials;
  - A representative from the Utility Workers Union America Local 369 who either works or worked at Pilgrim;
  - A representative from the Old Colony Planning Council; and
  - Appointees from the Town of Plymouth.
- The committee is advisory, and unfunded.
- Its duties include:
  - hold at minimum 4 public meetings a year;
  - issue an annual report;
  - serve as a conduit for public information;
  - encourage community involvement;
  - receive reports on decommissioning and the decommissioning trust fund.

# Decommissioning Citizens Advisory Panel Members

## State Officials

- Secretary of Health and Human Services (Secy. Marylou Sutters)
- Secretary of Energy and Environmental Affairs (Secy. Matthew Beaton)
- Commissioner DPU (Angela O'Connor)
- Secretary of Housing And Economic Development (Secy. Jay Ash)
- Director of the Massachusetts Emergency Management Agency (Kurt Swartz)
- 1 member from Massachusetts Department of Public Health Radiological Control Program appointed by the Bureau of Environmental Health (TBA)
- 2 members appointed by the Governor (John Flores, Cape Cod; other TBA)
- 2 members appointed by the Speaker of the House (Kevin O'Reilly & Pine DuBois)

# Decommissioning Citizens Advisory Panel

## Members (cont'd)

- **State Officials (cont'd)**
  - 1 member appointed by the minority leader of the house of representatives (Richard Grassie);
  - 2 members appointed by the President of the Senate (Sen Dan Wolf & Jessica Casey)
  - 1 member as appointed by the minority leader of the Senate (Sean Mullin)
- **Plymouth and local representatives**
  - 2 representatives of the Town of Plymouth selected by the Plymouth Board of Selectmen (John Mahoney & Heather Lightner)
  - 1 member of the Plymouth Nuclear Matters Committee appointed by the Plymouth Board of Selectmen (Joseph Coughlin)

# Decommissioning Citizens Advisory Panel

## Members (cont'd)

- 1 representative of Old Colony Planning Council or designee, selected by the Council (Pat Ciaramella)
- 2 Pilgrim Station representatives (Michael Twomey & John Ohrenberger)
- 1 representative of the Utility Workers Union of America, Local 369 who shall be a present or former employee at Pilgrim (Richard Sherman)



Meeting Notice Posted on: April 19, 2017

## The Commonwealth of Massachusetts

### NUCLEAR DECOMMISSIONING CITIZENS ADVISORY PANEL NOTICE OF PUBLIC MEETING

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The nuclear decommissioning citizens advisory panel ("NDCAP") established pursuant to Chapter 188 of the Acts of 2016, § 14 will hold a public meeting on **May 24, 2017, at 6:00 p.m. to 8:00 p.m.** The meeting will be held at **Plymouth South High School, 490 Long Pond Rd, Plymouth, Massachusetts 02360.** This meeting notice is published pursuant to Massachusetts General Laws, Chapter 30A.

At the May 24, 2017 meeting, the NDCAP anticipates receiving public comments and discussing the following:

<b>6:00 p.m.</b>	Introductions NDCAP Administrative Business
<b>6:15 p.m.</b>	Presentation by Entergy <ul style="list-style-type: none"><li>• Overview of Plant/Operations</li><li>• Decommissioning Activities</li></ul>
<b>6:45 p.m.</b>	Panel Questions/Comments
<b>7:15 p.m.</b>	Public Questions/Comments
<b>7:45 p.m.</b>	Next Steps

The Commission may also discuss any general business of the NDCAP. Questions regarding the NDCAP's May 24, 2017 meeting may be directed to Matthew Campbell, Chief of Staff, Department of Public Utilities, 617-305-3758, [matthew.campbell@state.ma.us](mailto:matthew.campbell@state.ma.us).