



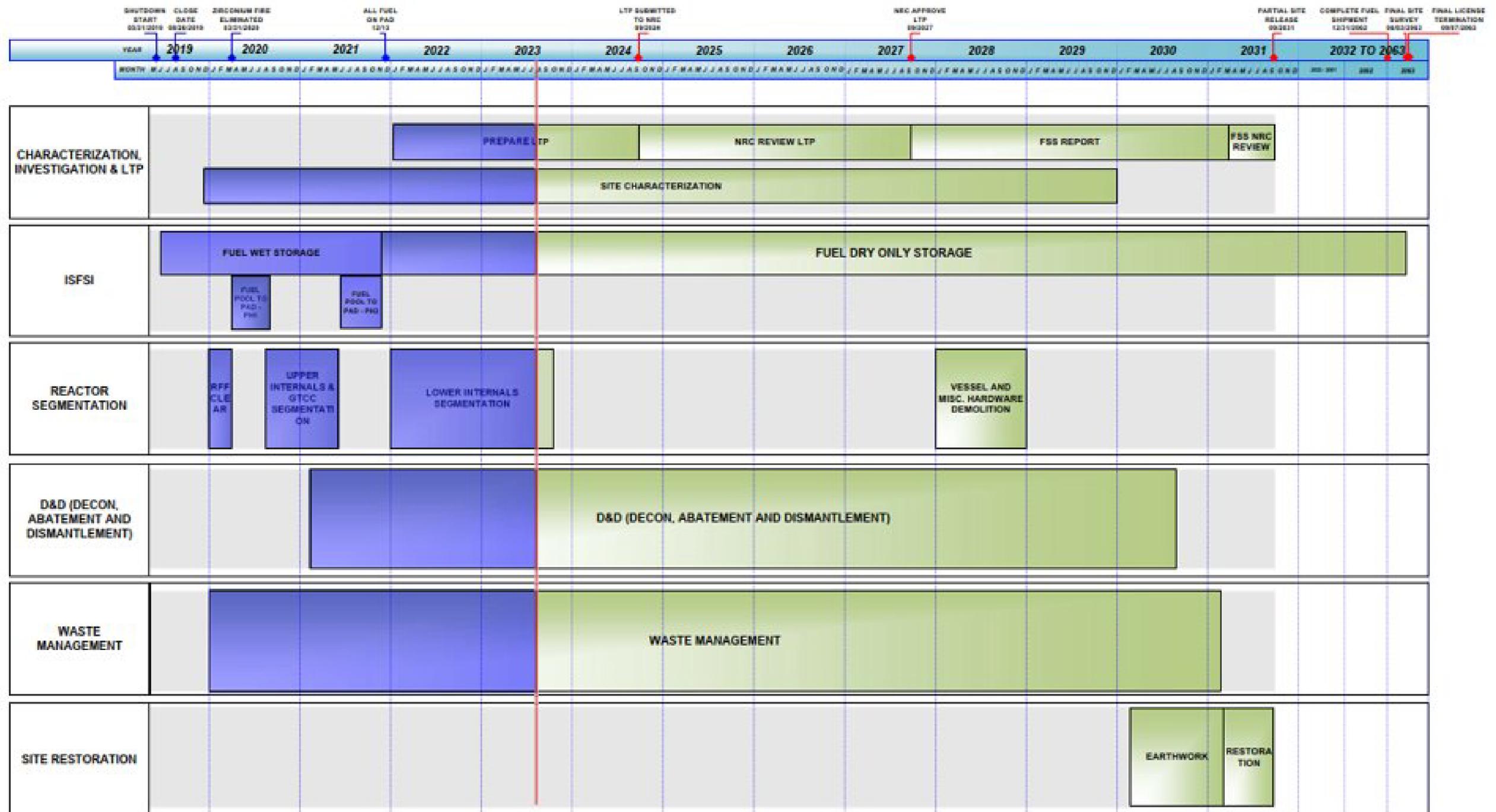
# Pilgrim NDCAP Update



September 25, 2023

# Waterfall Chart

Pilgrim Decommissioning – Waterfall Chart



# Demolition - Completed

- Fire Water Storage Tank



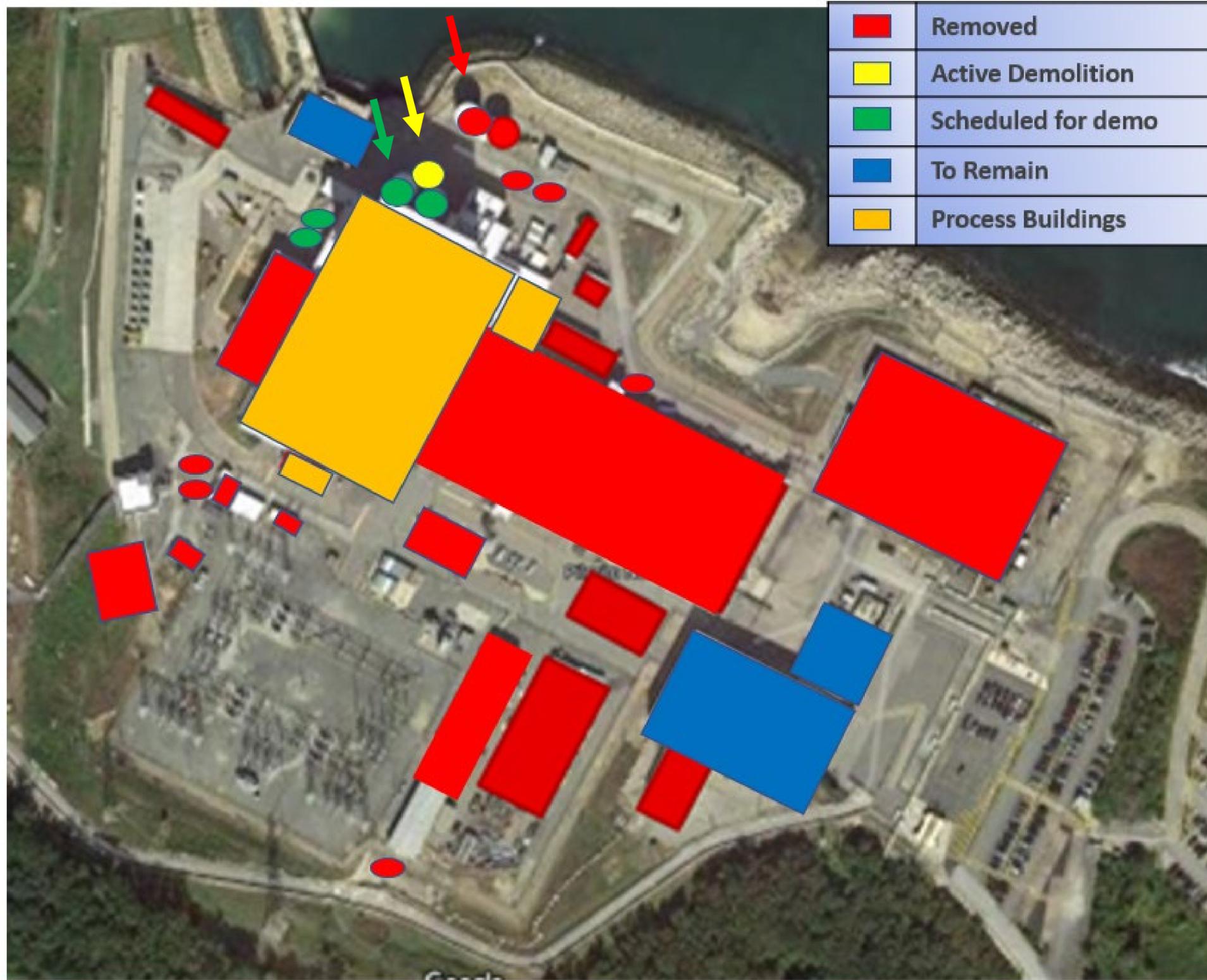
# Demolition - Upcoming

## Above Ground Water Storage Tanks

- Demineralized Water Storage Tank (50,000 gallons capacity)
- Condensate Storage Tanks (2) (275,000 gallons capacity each)



# Demolition Status



# Reactor Internal Segmentation

In Progress

- Cut and Segment Shroud Ring
- Jet Pumps (20) removal and packaging
- B/C Waste packaging and staging scheduled to complete December 2023

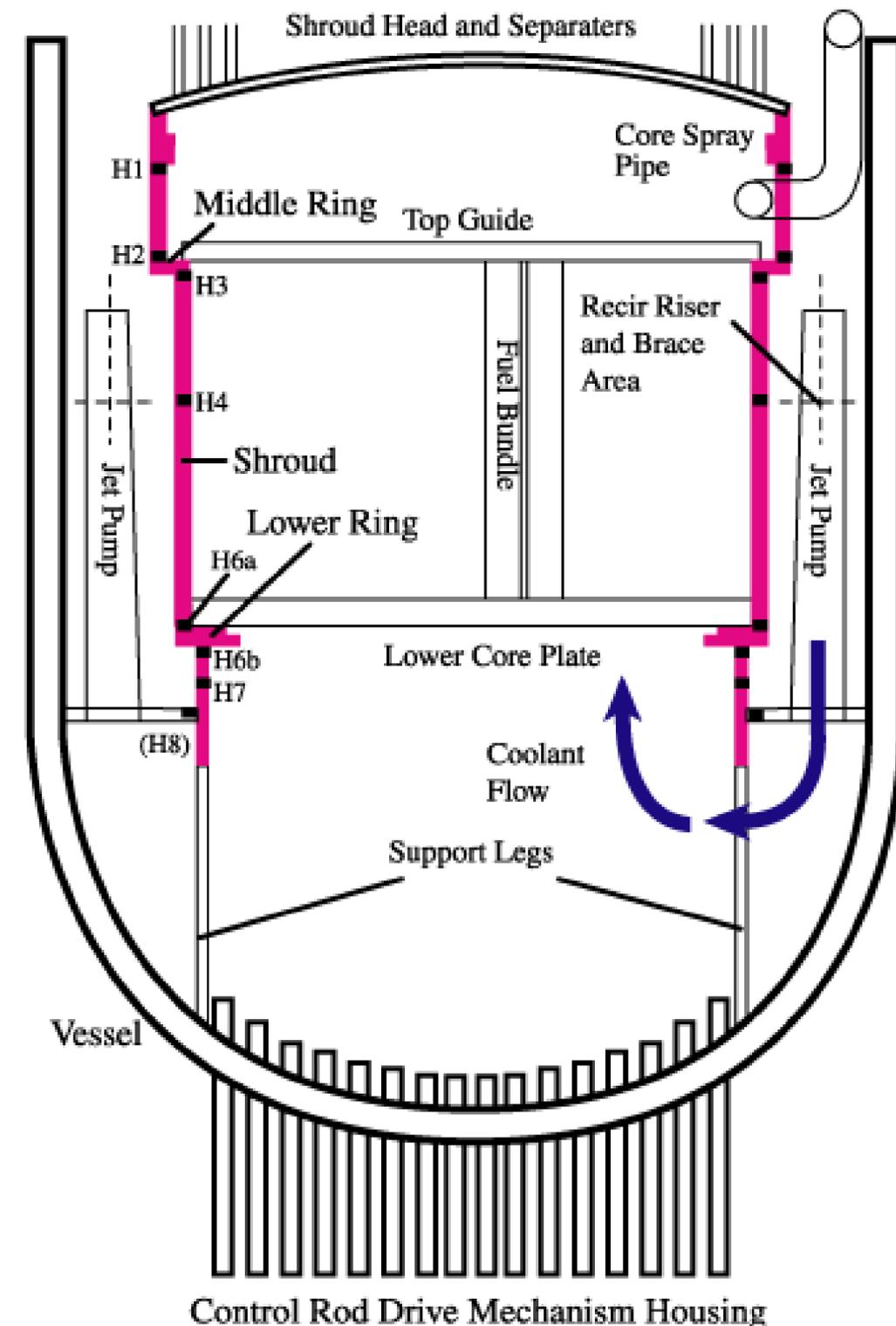


Figure is illustrative and not Pilgrim specific

# Regulatory and Licensing

- Three violations of low safety significance regarding security controls for non-fuel radiological material under 10 CFR Part 37 identified in the recently completed NRC 2023 First Quarter Inspection.
- None of the issues involved a loss of control of any material. All have been satisfactorily addressed.
- Causal analysis is in process to identify any concerns for extent of the causes or conditions noted.

# Waste Management

Rounded values for waste shipped for disposal

Calendar Year	Volume (CF)	Activity (Ci)
2019*	11,300	225
2020	8,410	7
2021	58,000	933
2022	87,100	383
Thru 9/20/2023	60,842	241
2019-2023 Totals	225,652	1,789

\* Includes a small quantity of waste shipped during the last operating cycle



# Evaporation



Fuel Pool, Cavity, and Dryer Separator Pit and to a certain extent the torus are open pools of water that evaporate. The amount of evaporation is determined by a number of factors including:

- Temperature of the water
- Temperature of the surrounding air
- Air flow across the water surface
- Ambient relative humidity of the air
- Agitation of the water's surface

# Evaporation

Water that evaporates includes Tritium in proportion to the concentration of tritium in the water. The total remaining tritium in the water volumes at Pilgrim is less than 12 Curies

Calendar Year	Offsite Dose (mr)*	Gaseous Tritium Released (Ci)	Equivalent Dose Released due to Tritium (mr)
2022	0.16	2.38	0.000070**
2021 FOP	0.30	8.00	0.000235**
2020	0.14	7.70	0.000265**
2019 SD	0.47	30.6	0.0009**
2018	0.71	34.0	0.001**
2017	0.76	48.0	0.0014**
2016	0.77	64	0.00188**

\*Total offsite dose to a postulated most affected individual includes: direct radiation dose + airborne radioactivity (including food chain deposition and bioaccumulation) + liquid discharge associated dose (including food chain deposition and bioaccumulation)

\*\* This value derived from 2022 data where 0.000070 mrem was attributed to 2.38 Ci of tritium and 0.000042 Ci of particulate radionuclides. The particulate radionuclides were discounted in this table and the entire gaseous effluent dose was (conservatively) attributed to tritium.

# Heating of Reactor Cavity

Heaters were installed at the beginning of 2023 to:

- Reduce drying time of containerized waste removed from the pool
- Improve localized working conditions for individuals on the refueling floor
- The facility’s design review process was followed and found comprehensive by NRC’s inspection

The net impact of operation of the heaters was to raise average water temperature in the reactor cavity to approximately 100°F

- 25°F below the maximum temperatures in the Spent Fuel Pool and Reactor Cavity during plant operation and defueling
- An approximate tritium release of 1.2 Curies and an offsite dose of .00003 millirem

Calendar Year	Gaseous Tritium Released (Ci)	Equivalent Dose Released due to Tritium (mr)
<b>2023 (heating period / prorated)</b>	<b>1.2 / 4.8</b>	<b>0.00003 / 0.00012</b>
2022	2.38	0.000070**
<b>2021 FOP</b>	<b>8.00</b>	<b>0.000235**</b>
2020	7.70	0.000265**
<b>2019 SD</b>	<b>30.6</b>	<b>0.0009**</b>
2018	34.0	0.001**
2017	48.0	0.0014**
2016	64	0.00188**