Pilgrim NDCAP Update

May 24, 2021

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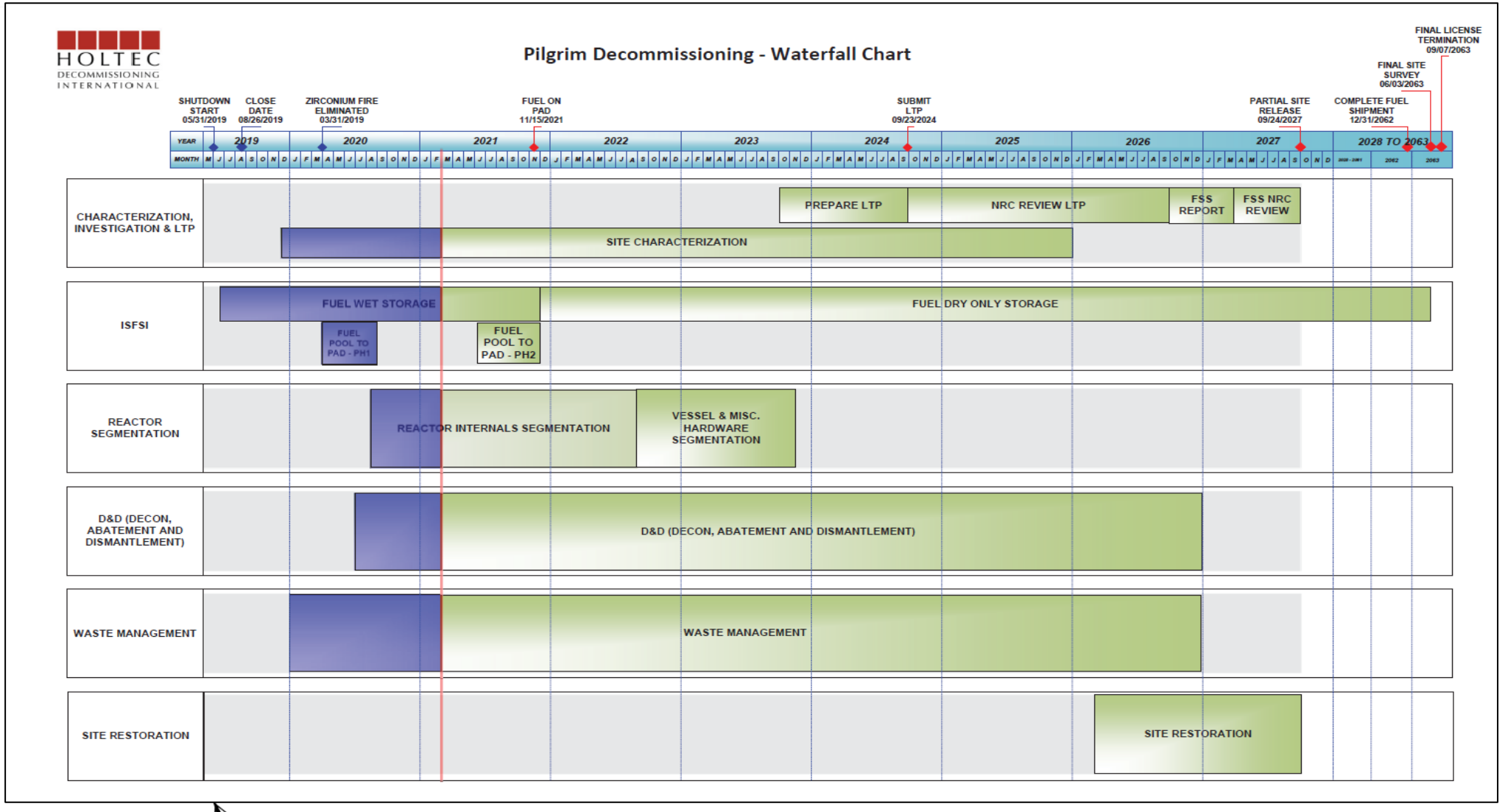
Annual Submittal

ERM

Annual NDT and SFM Funding Submittal to NRC



Annual NDT and SFM Funding Submittal to NRC

- **Key elements of the submittal (https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=ML21090A336)**
  - Actual costs and re-imbursements from August 27, 2019-December 31, 2020
  - NDT balance on December 31, 2020 ($881 million)
  - Estimate of remaining costs to decommission Pilgrim from January 1, 2020 through final license termination targeted for 2063 (including spent fuel management and site restoration costs)
  - Revised milestone schedule reflecting work completed and schedule for remaining work
- **Pilgrim decommissioning cost and schedule impacts**
  - Schedule improvement in the fuel on pad date
  - Optimization of work activities—focused on efficiency and effectiveness
    - Site security modifications enhancing site security and also reducing unnecessary expenses
    - Accomplishing demolition of non-rad impacted structures
    - Pulling up critical demolition planning, prep, building cleanout etc.
    - Established a waste disposal contract to improve dismantlement, demolition and waste disposal efficiency and lower overall decommissioning estimated costs

Increased 2020 actual costs are offset by decreases in cost estimates for later years

2020/2021/ Nuclear Decommissioning Trust Fund/Spent Fuel Management Submittal Comparison

Total Estimate to Complete Decommissioning (Millions of Dollars) Including Actual Expenditures						
	2020 Submission			2021 Submission		
	Actual Costs Transition to 12/31/2019	Estimate to Complete 1/1/2020 to Final License Termination	Total Decommissioning Cost Estimate including Actual Expenditures to date	Actual Costs Transition to 12/31/2019	Estimate to Complete 1/1/2020 to Final License Termination	Total Decommissioning Cost Estimate including Actual Expenditures to date
Pilgrim	101	1031	1132	277	824	1101

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Demolition and Segmentation

Demolition and Segmentation

- Fire Water Storage Tank ‘B’ Demolished
- Demin Water Tank Prepped for Demo
- Condensate Storage Tanks Scheduled for 3rd Qtr 2021

Demolition and Segmentation

- Small Trailer for Former Met Tower Demolished Ahead of Fuel Campaign

- K-4 Building Demo Scheduled for June, Awaiting Permit

- Old Admin Building – Gapping in Progress, Asbestos Abatement in June, Demolition July

- Main Warehouse and O&M Building- Relocating Staff to ESB, RCA Checkpoint relocating inside building, warehouse internals ongoing, Security modifications to Accommodate Building Removal in Review

Demolition and Segmentation

- Greater-than-Class C Waste (Top Guide, Mid-Core Shroud) Staged for Loading in Non-Fuel Waste Container After Fuel Campaign

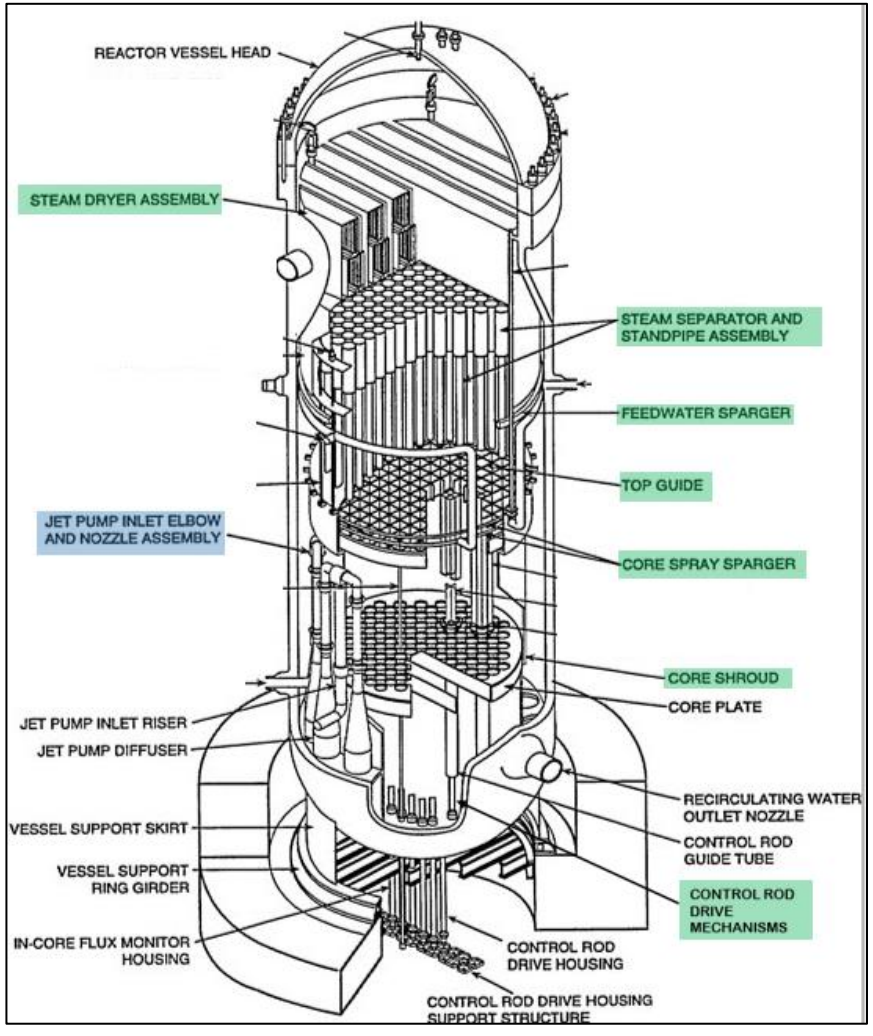
- Jet-Pump Segmentation in August

- Waste Reduction Work Continues in the Dryer-Separator Pit Ahead of Fuel Campaign

GTCC Top Guide removed from vessel

GTCC Top Guide segmentation

GTCC Mid-Shroud lowered onto cutting table



Waste Management

- Waste Shipped to Date:
  - 10 Class A Reactor Vessel Internal Shipments
  - 4 Dry Active Waste “C” Vans Disposed
  - 36 Concrete Shield Blocks in Transit on Rail

- Five Type “B” Containers loaded with Reactor Vessel Internal(b/C) Waste Staged for Shipping in Shielded Vaults

- Condenser Bay Internal Waste Shipments Truck-to-Rail at Right

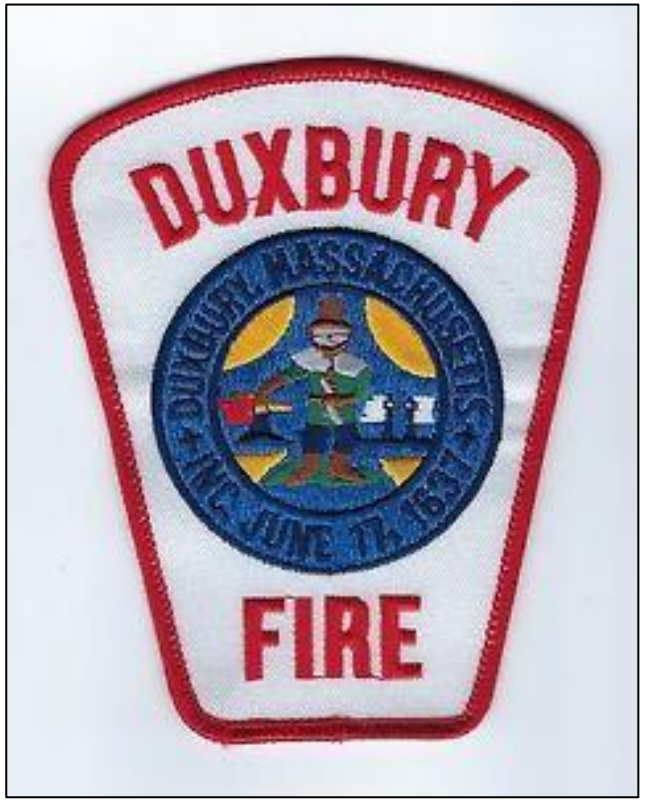
Recent Training

- Continued Training and Education for Local Communities at the Request of Those Chiefs

- Two Days Last Week

- Kingston and Duxbury Fire Received Overviews and Site Tour

- Plymouth County Technical Rescue Team Still to Come



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Final Fuel Campaign

Fuel Campaign

- In-Processing Fuel Team Members Underway
- Delivery of HI-STORMS and MPCs In Progress
- Concrete Pouring and Preparation Underway
- Loading to Begin in June and Planned to Complete in November
- Oyster Creek Completed Total Fuel Offload from the Pool Friday (Final 33 Casks)

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Amended Environmental Site Assessment Work Plan Briefing

ERM

Amended ESA Work Plan Submittal

Summary of Initial Site Characterization Activities (Radiological and Non-Radiological)

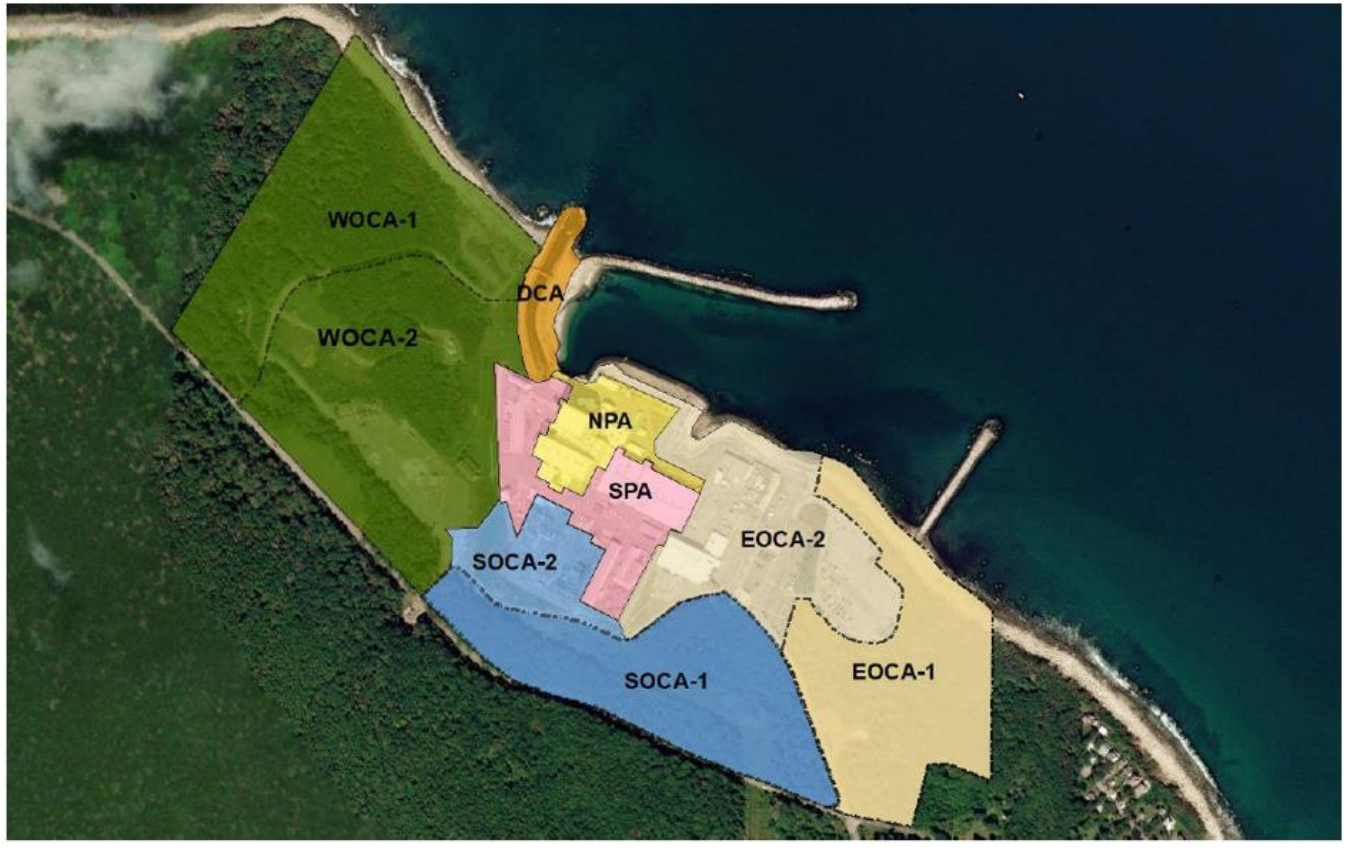
1. Scope and Methods (sample locations, analytical testing, tables on # of samples collected)
    1. Survey Areas / Areas of Interest
    2. Radiological samples – random and biased sample locations per MARSSIM
    3. Non-radiological samples – biased locations to cover areas of interest
    4. Soil, groundwater, sediment and buildings / structures
2. Results of Initial Site Characterization Activities (maps, data tables)
    1. Radiological – MARSSIM classifications of individual survey areas (BHI Radiological Data Report)
    2. Non-radiological – MCP Reportable Concentration exceedances (H&A Non-Rad Data Report)
3. Data Gaps from December 2020 Plans

Amended ESA Work Plan Submittal

Amended ESA Work Plan

1. Work plans to address identified data gaps (rad & non-rad)
2. MCP program for non-radiological exceedances
3. Groundwater monitoring plan
4. Schedule for characterization beneath buildings
5. Plan for initial characterization of license perimeter land areas
    1. HSA for perimeter areas
    2. Sample plans (proposed sample locations, analytical testing)

Phase I Radiological MARSSIM Classifications



Survey Area	Code	MARSSIM Classification
West Owner Controlled Area	WOCA-1 WOCA-2	Class 3 Class 3
South Owner Controlled Area	SOCA-1 SOCA-2	Class 3 Class 3
East Owner Controlled Area	EOCA-1 EOCA-2	Class 3 Class 3
Discharge Canal Area	DCA	Class 1
North Protected Area	NPA	Class 1
South Protected Area	SPA	Class 2

Phase I Non-Radiological Results (Exceedances)

Soil Exceedances > RCS-1 Values

Compound	RCS-1 Value (mg/kg)	Exceedance Value	Exceedance Location
Perfluorodecanoic acid (PFDA)	0.0003	<0.000933	DP0105
Perfluoroheptanoic acid (PFHpA)	0.0005	<0.000933	
Perfluorohexanesulfonic acid (PFHxS)	0.0003	<0.000933	
Perfluorononanoic Acid (PFNA)	0.00032	<0.000933	
Perfluorooctanoic Acid (PFOA)	0.00072	<0.000933	

Exceedances reported to MADEP on 4/21/2021

Groundwater Exceedances > RCGW-1 Values

Compound (unit)	RCGW-1 Value	Exceedance Value	Exceedance Location
PFAS6 (ng/L)	20	37.66 32.03	MW-201 HA-6
Arsenic (mg/L)	0.01	0.013 0.02 0.035 0.032	MW-216 DP0603 DP0604 DP0619
Vanadium (mg/L)	0.03	0.0366 0.123 0.245 0.128	HA-6 DP0603 DP0604 DP0619
Lead (mg/L)	0.01	<0.01 0.102 0.227 0.014 0.265	MW-4R DP0603 DP0604 DP0605 DP0619
Antimony (mg/L)	0.01	<0.04	DP0619
Beryllium (mg/L)	0.004	0.0057 0.0186 0.009	DP0603 DP0604 DP0619
Cadmium (mg/L)	0.004	0.007 0.005 <0.004 <0.004	DP0604 DP0619 DP0603 DP0605
Nickel (mg/L)	0.1	0.187 0.114	DP0604 DP0619
Thallium (mg/L)	0.002	0.0029 <0.01	DP0604 DP0619

Map of Non-Rad Sample Locations & Exceedances

5 PFAS compounds ND in soil (ND > RCS-1)

Key Findings to Date

1. Non-Radiological Exceedances
    1. Reported to MADEP in accordance with MCP 120-day release notification
    2. Numerous metals in groundwater attributed to turbidity and sampling technique
    3. PFAS in soil is non-detect, but reported due to detection limit over RCs
    4. Where positive detections were identified, concentrations are low and values are slightly above RC
    5. No significant soil contamination or groundwater plumes identified to suggest active remediation

2. Radiological Findings
    1. No significant soil contamination identified
    2. Groundwater confirms site conditions as understood under NEI 07-07 program

3. Site characterization will continue along iterative process