



Pilgrim Nuclear Power Station Decommissioning Update

July 18, 2018





Introductions

John Ohrenberger
Decommissioning Director
Pilgrim Nuclear Power Station

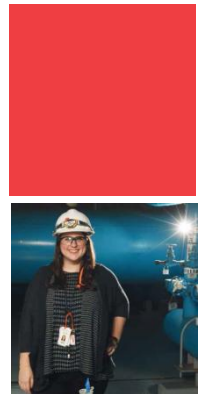
Joseph R. Lynch
Sr. Manager, Government Affairs
Decommissioning - EWC



Dry Fuel Storage Update

Dry Fuel Storage Update

- Pilgrim currently has one (1) operational ISFSI pad with a capacity of 40 casks administratively limited to 38 casks to facilitate shuffling/cask access.
- The current pad has nine (9) loaded Holtec System 100 Multi-Purpose Canisters (MPCs) each with 68 fuel assemblies.
- A total of 17 loaded casks (~1156 fuel bundles) is planned to be on the ISFSI pad by October 2018.
- A second ISFSI pad is required to store all spent nuclear fuel on-site.
- Design, engineering and vendor selection will determine specifics such as the size of the second pad and the total number of cask systems.



Dry Fuel Storage Update (Cont'd)

- The effort to site the second ISFSI pad is an important project that the Decommissioning Planning Organization (DPO) will undertake in conjunction with the Decommissioning Plan.
- There are regulatory and technical requirements that will guide this process.
 - Physical/Engineering design considerations
 - Security requirements
 - NRC regulations/approval
 - Permitting
 - Environmental considerations
 - Impact on decommissioning
- Three locations are being evaluated for siting the second ISFSI pad.





West

South West

Pilgrim Nuclear Station

South East

Spent Fuel Management – Post-Shutdown DFS

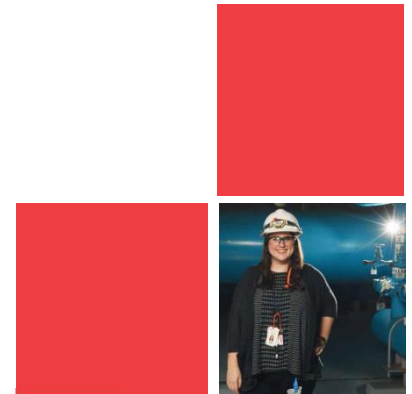
- South East location challenges
 - Haul path underground utilities
 - Overhead transmission lines
- West location challenges
 - Haul path re-work to support elevation requirements
 - Proximity to site structures
- South West location challenges
 - Proximity to Rocky Hill Road
 - Length of haul path



Nuclear Decommissioning Trust (NDT)

Nuclear Decommissioning Trust Update

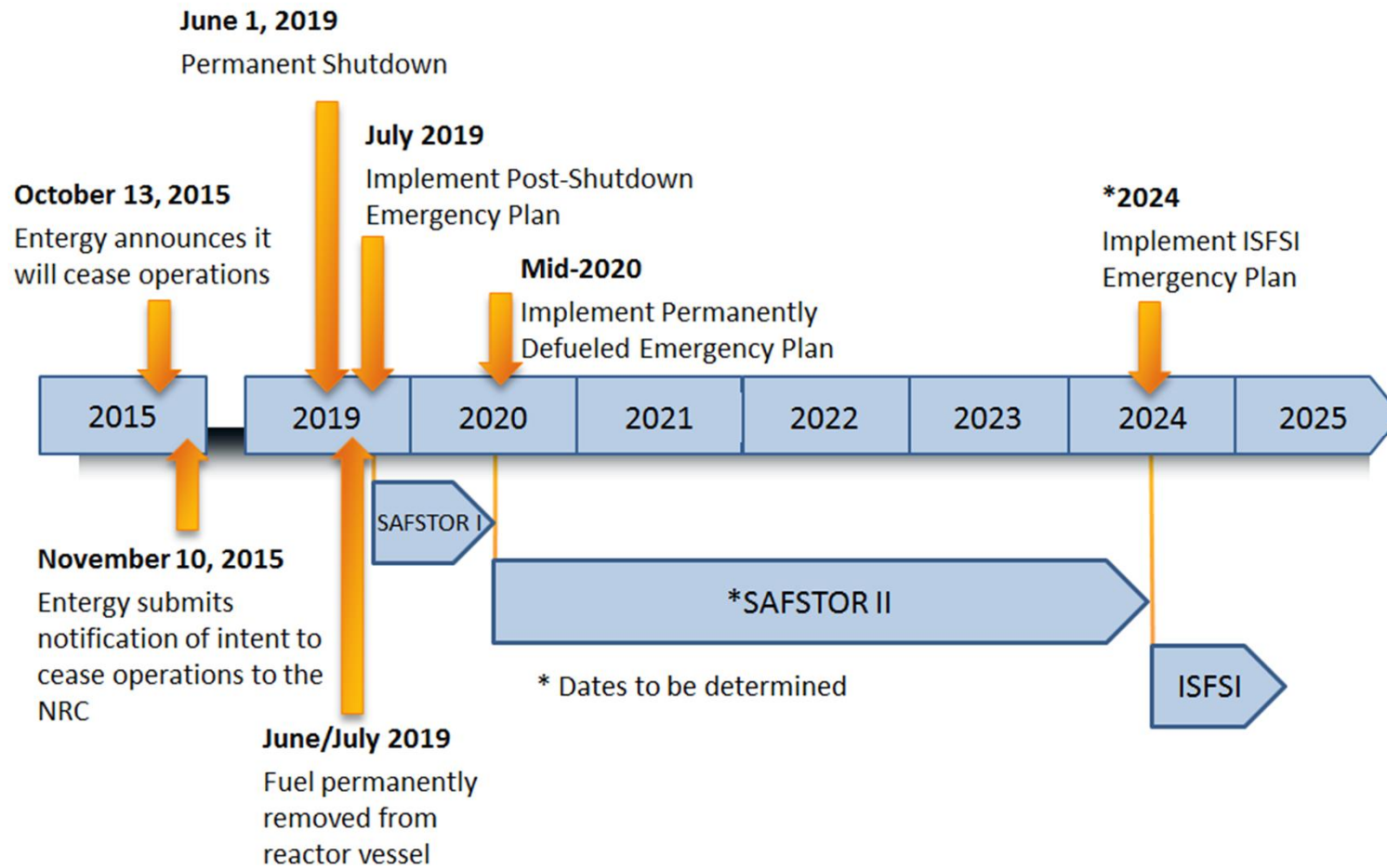
- The Pilgrim NDT balance was \$1.09 Billion on January 31, 2018 as reported at the February 2018 NDCAP meeting.
- The Pilgrim Nuclear Decommissioning Trust (NDT) balance was \$1.055 Billion on June 30, 2018.
- Changes in the NDT are due to market losses/gains and payment of trust expenses.





Emergency Planning

Draft Pilgrim Timeline

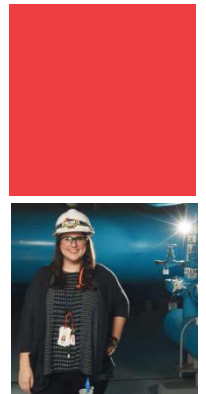


Emergency Plan Decommissioning Status

Scope of the Decommissioning Emergency Plan is commensurate with the radiological risk at each phase of the transition

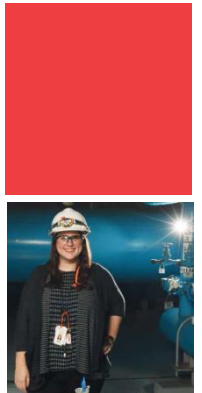
Planned E-Plan Submittals

- Post-Shutdown E-Plan License Amendment Request (LAR) – Covers SAFSTOR Period 1 - Plant Shutdown to Mid-2020 – Submitted Jan. 2018.
- EP Exemption Requests – Supports Permanently Defueled E-Plan and Emergency Action Levels – Submitted July 3, 2018
- Permanently Defueled E-Plan and Emergency Action Levels (EALs) License Amendment Request – Covers SAFSTOR Period II – Mid-2020 to All Fuel in Dry Storage – Planned submittal TBD
- ISFSI-Only Emergency Plan



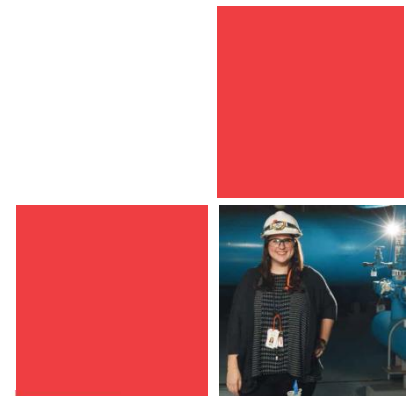
Post-Shutdown E-Plan Changes

- Fully compliant with existing regulation and guidance
 - No exemptions from regulation at this time
 - Onsite and offsite programs are maintained and all EP requirements met, including exercises
- Changes to on-shift and ERO staffing appropriate with lower risk of non-operating plant
 - Post-Shutdown staffing was evaluated in conjunction with the postulated accidents that remain applicable in the permanently shutdown and defueled condition
 - Maintain the capability to assess and monitor actual or potential offsite consequences of a radiological emergency and mitigate accidents associated with the Spent Fuel Pool (SFP)



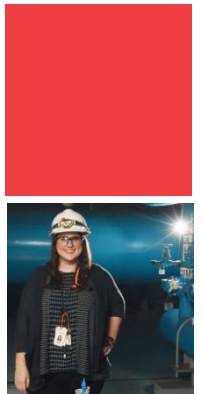
Post-Shutdown E-Plan Changes (Cont'd)

- Robust Emergency Plan (E-Plan) remains in place
- Initial staffing changes as a result of plant shut down consistent with lower risk
- Significant reduction in potential events as a result of defueling
- Much slower event progression warrants future changes.



Post-Shutdown E-Plan Changes (Cont'd)

- Emergency Response Organization
 - Restoration of equipment supporting spent fuel cooling and inventory will be the primary focus of emergency mitigation actions for the TSC/OSC in a permanently shutdown and defueled condition.
 - Elimination of credible accidents involving an operating reactor provide additional time to plan and execute assessment and mitigation actions.
 - The proposed changes do not impact the capability to assess and monitor actual or potential offsite consequences of a radiological emergency.
 - Appropriate assessment and mitigation are well with the capabilities of the reduced TSC/OSC/EOF staff



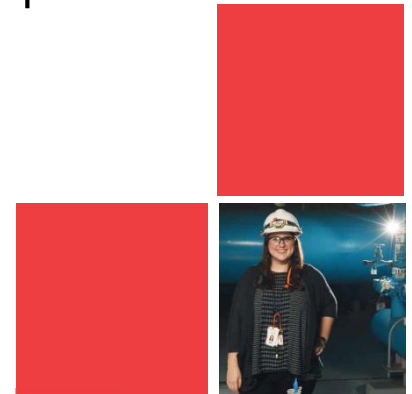
Permanently Defueled E-Plan Changes

- Robust Emergency Plan commensurate with the reduced risk of an off-site release and types of postulated accidents
- Offsite emergency measures are consistent with all hazards planning approach
- Emergency Planning Zones (EPZ)
 - Within Site Boundary commensurate with reduced risk
 - Consistent with Environmental Protection Agency (EPA) Protective Action Guidelines (PAG) Manual.
- Emergency Action Levels (EAL)
 - Address only Spent Fuel Pool (SFP) and Independent Spent Fuel Storage Installation (ISFSI)
 - Radiological Conditions, Hazards, System Malfunctions
 - Unusual Event and Alert Classifications only



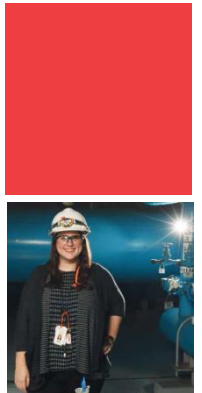
Permanently Defueled E-Plan (Cont'd)

- Declaration Time
 - Pilgrim maintains the capability to assess, classify and declare an emergency condition as soon as possible and within 30 minutes after the availability of indications to plant operators that an emergency action level threshold has been reached
- Notification Time
 - Notification to MA and the Town of Plymouth as soon as possible and within 60 minutes of emergency declaration or change in classification
- ERO Augmentation Time
 - Goal of the ERO is to augment the on-shift staff as soon as possible and within 2 hours of an Alert classification
- Fire Brigade
 - Reduced brigade as defined in the Fire Protection Plan – Incipient brigade with offsite support



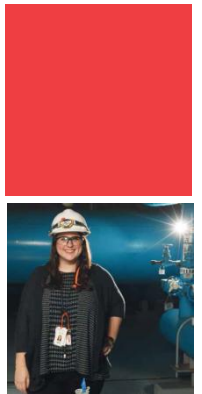
Permanently Defueled E-Plan (Cont'd)

- Emergency Response Organization
 - Emergency Director
 - The Control Room Supervisor will assume the position of Emergency Director (ED) once an emergency classification has been made and as the ED that will assume overall Command & Control of a classified event.
 - Technical Coordinator
 - The augmenting Technical Coordinator (TC) responds to the Control Room and reports to the ED. The TC advises the ED on technical issues and coordinates maintenance and mitigative issues.
 - Radiological Protection Coordinator
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Proposed Schedule

- Post-Shutdown Emergency Plan LAR
 - Requesting approval by January 2019
 - Implementation upon certification of the removal of all fuel from the reactor vessel (June 2019)
- Permanently Defueled Emergency Plan/EAL LAR
 - Requested approval date - TBD
 - Implementation 10 months after shutdown (April 2020)
- Current requirements, responsibilities, processes, and procedures remain in place until the PSEP is implemented soon after shutdown (June 2019)
- Current Regulatory requirements remain in place until EP Exemptions and the PDEP are implemented 10 months after shutdown.





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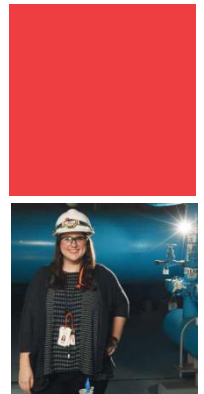
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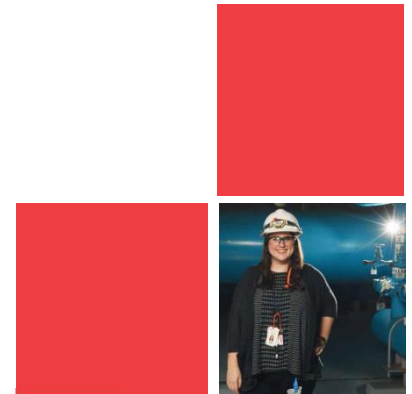
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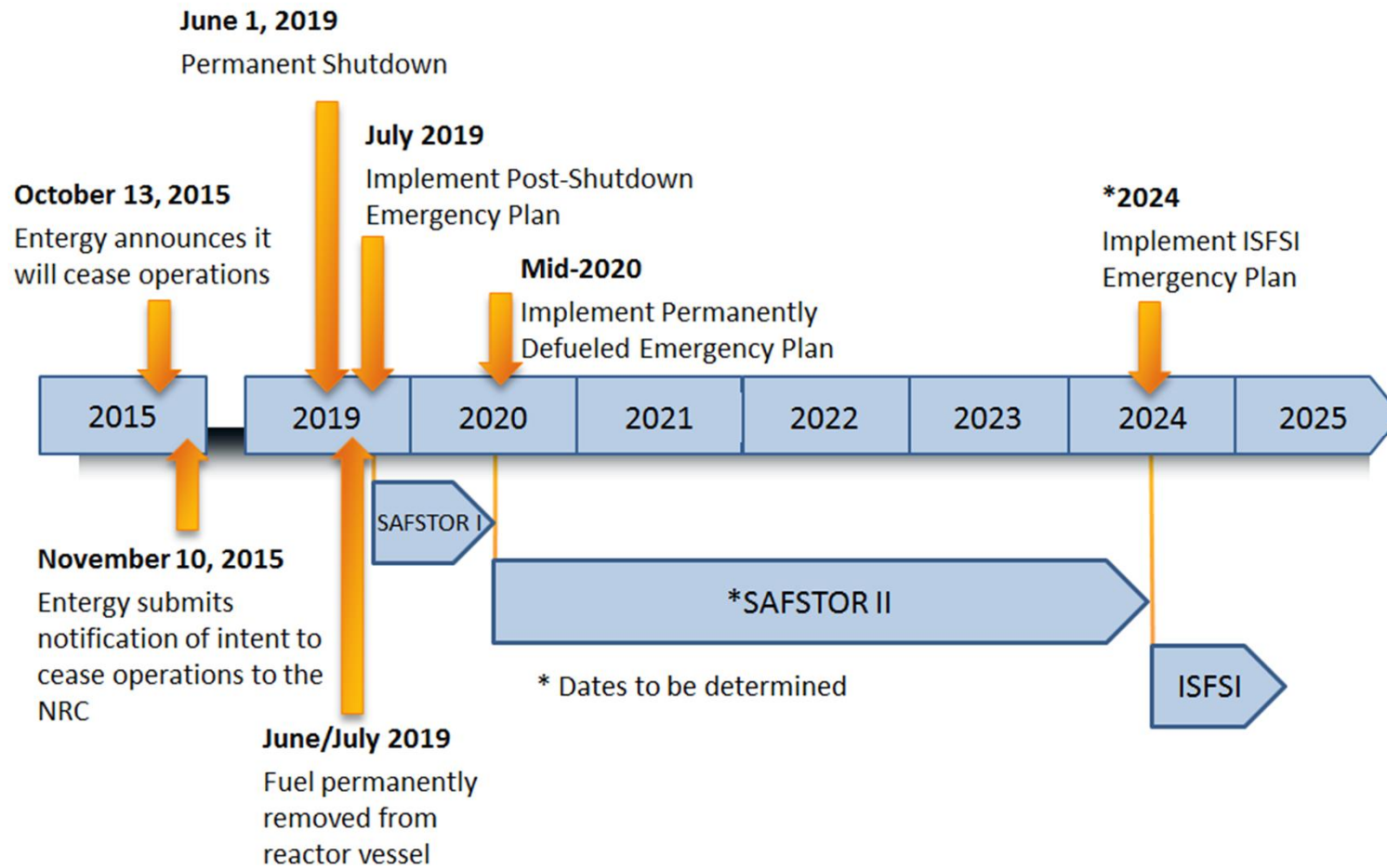
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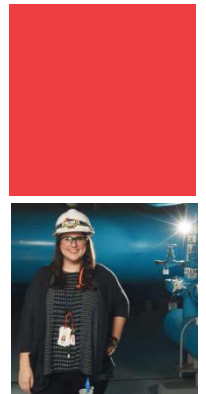


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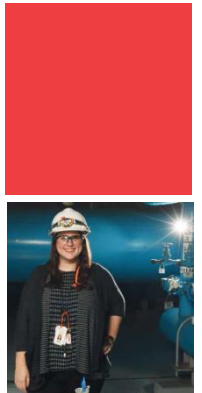
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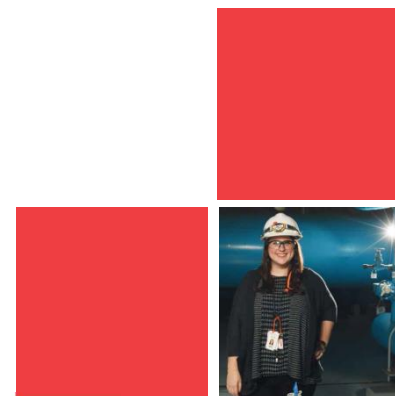
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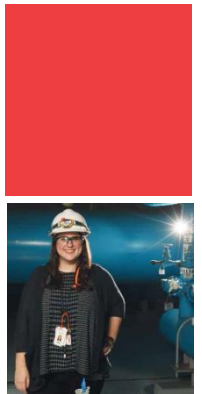
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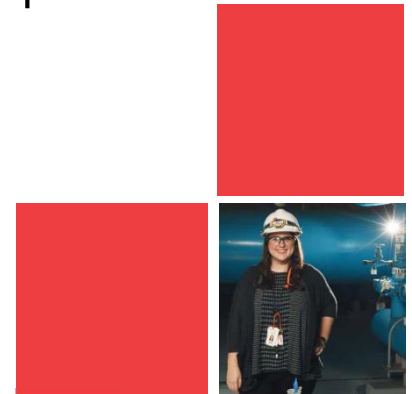
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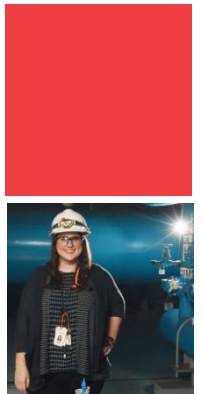
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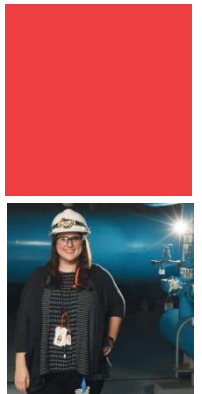
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