Pilgrim Nuclear Power Station
Dry Fuel Storage Update

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WE POWER LIFE℠

Introductions

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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 seventeen (17) loaded Holtec System 100 Multi-Purpose Canisters (MPCs) each with 68 fuel assemblies (1,156 total) which completes the planned loading in 2018.
- A total of 4,114 spent fuel assemblies will be required to be stored at Pilgrim Station
- The entire dry fuel storage campaign is expected to require 61 casks.
- A second ISFSI pad is therefore required to store all spent nuclear fuel on-site.

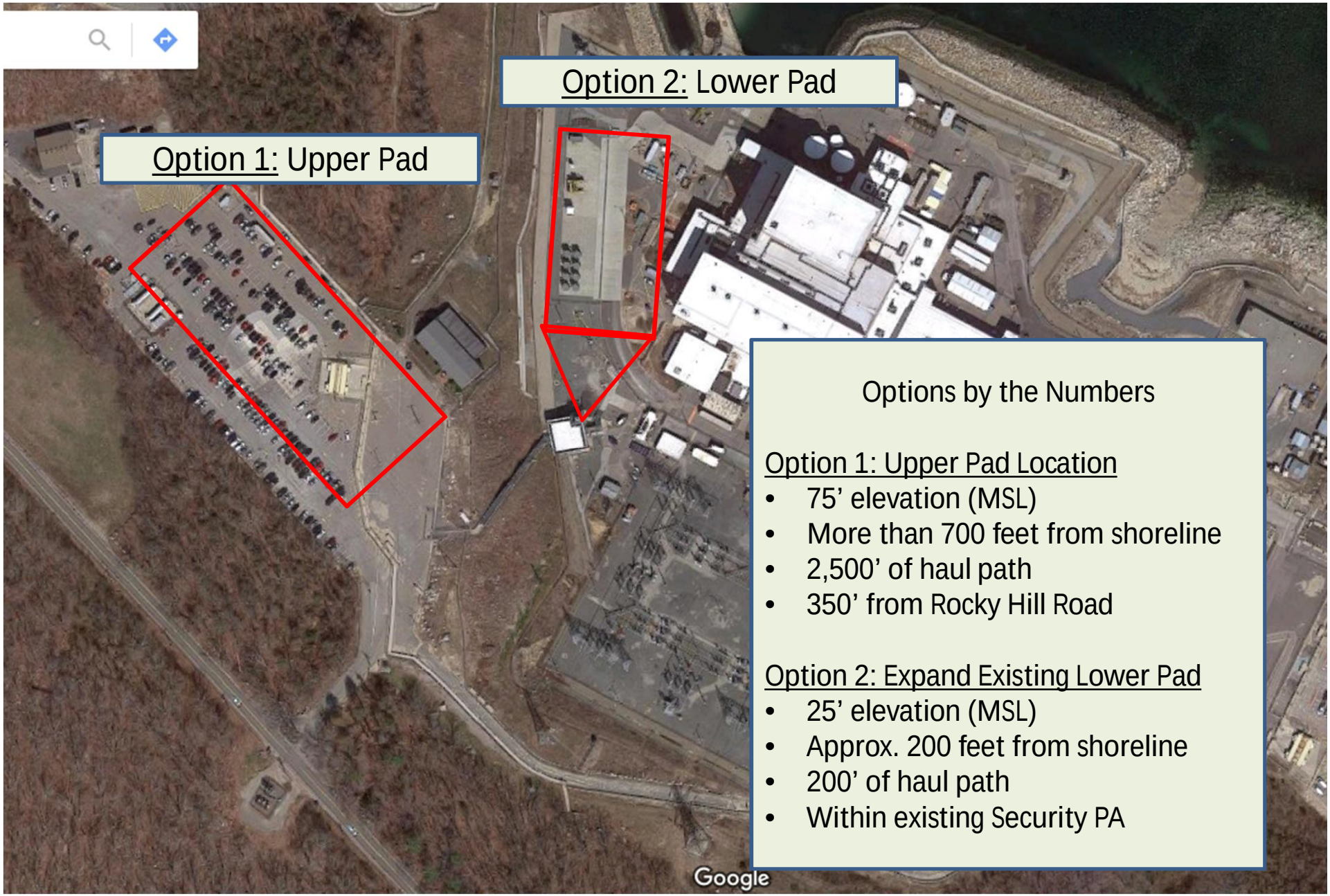
Dry Fuel Storage Update (Cont'd)

- Three locations were initially evaluated for siting the second ISFSI pad.
- There are a number of regulatory and technical requirements that guided this process.
  - Storage Capacity and Layout
  - Interferences and Sub-Surface Utilities
  - Regulatory Requirements (NRC/Local Permitting)
  - Geotechnical
  - Physical/Engineering Design Considerations (Structural/Electrical)
  - Security Requirements
  - Radiological Considerations
  - Hazard Considerations
  - Impact on Decommissioning


West
South West
South East
Power House Rd
Rocky Hill Rd
Rocky Hill Rd
Pilgrim Nuclear Station

Dry Fuel Storage Update (Cont'd)

- Upon completion of the technical evaluation of the three locations, two sites were deemed suitable for the second ISFSI pad.
  - Option 1: Upper Parking Lot Location
  - Option 2: Lower Pad Adjacent to the Existing Pad
- Geological evaluations including extensive core bores of the soils beneath the proposed pad locations and haul path were performed.
- In addition, both radiological dose calculations and security assessments were performed to evaluate site suitability.


Option 2: Lower Pad
Option 1: Upper Pad
Options by the Numbers
Option 1: Upper Pad Location
• 75’ elevation (MSL)
• More than 700 feet from shoreline
• 2,500’ of haul path
• 350’ from Rocky Hill Road
Option 2: Expand Existing Lower Pad
• 25’ elevation (MSL)
• Approx. 200 feet from shoreline
• 200’ of haul path
• Within existing Security PA
Google

Issues Evaluated in Comparing Upper and Lower Pad Locations

Technical

- Soil Liquefaction – Soil stability after seismic or other natural events
- Seismic Analysis – Soil-Structure-Interactions analyses
- Security Blast Analysis – Impact of postulated external hostile actions
- Site Boundary Dose – Dose to workers/members of the public
- Underground Interferences – Sub-surface piping, electrical and wells
- Haul Path – Evaluation of the path required to move the spent nuclear fuel from the Reactor Building to the proposed pad location (e.g., grade)

Issues Evaluated in Comparing Upper and Lower Pad Locations (Cont'd)

Construction

- Access to the Site – Construction equipment & future Protected Area (PA)
- Burden on Station – ISFSI operational impacts on decommissioning
- ISFSI Modifications – Ease of future stand-alone ISFSI and PA (Security)
- Site Boundary Dose – Dose to workers/members of the public
- Security Equipment – New Security equipment and impact on transition to decommissioning
- Security Plan – NRC approval of new or revised Physical Security Plan
- Security Transition – Current security plan to ISFSI only

Issues Evaluated in Comparing Upper and Lower Pad Locations (Cont'd)

Decommissioning

- Site Access for Demolition – Site access constraints impacted by pad location (equipment, people)
- Staff Consolidation – Evaluation of ISFSI operations during and after D&D

Environmental

- Elevation
- Permitting (State/Local)
- Shorefront Impacts
- Regulatory Risk and Approvals

Final Decision

After careful evaluation, Entergy Pilgrim will locate the ISFSI in the Upper Pad location

- The ISFSI will be sized to accommodate all of the spent nuclear fuel stored at the site
  - A total of 61 casks are required to store the spent nuclear fuel
  - The ISFSI will have a capacity of 70 casks
  - The configuration of the new pad is being finalized
- The ISFSI will be located approximately 75 feet above Mean Sea Level (MSL) and over 700 feet from the shoreline
- Anticipated Construction & Fuel Transfer Timeline

Milestones	Target Date
Initiate permitting process	Early 2019
Initiate construction of pad	Mid 2019
Fuel transfer process	2020 - 2021

Dates subject to change

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