


Memo to File: May 10, 2013

Attached are the NRC Slides presented at the  
Pilgrim ISFSI Briefing for the Town of Plymouth on  
April 2, 2013.

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# **Pilgrim Nuclear Power Station Independent Spent Fuel Storage Installation (ISFSI)**

## **Board of Selectmen of the Town of Plymouth April 2, 2013**

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Rules, Inspection, & Operations Branch  
Office of Nuclear Materials Safety & Safeguards

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Decommissioning Branch  
Region I

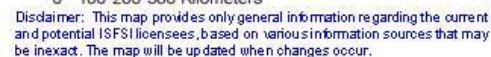
## Overview of Presentation

- Overview – Pilgrim ISFSI
- NRC Roles & Responsibilities
- ISFSI General License Requirements & Obligations
- Storage Cask Certification Process
- NRC Inspection & Oversight
- Summary

## Overview – Pilgrim ISFSI



- 10 CFR Part 50 & 72
- General License
- 18<sup>th</sup> ISFSI in Region I
- Plant Modifications & Construction in Summer 2013
- Cask Loading in Summer 2014
- Initial Campaign - 3 Casks



# NRC Roles & Responsibilities

- Office of Nuclear Materials Safety & Safeguards
  - Licensing and Certification
  - Vendor Inspection
  - Regional Inspection Support
- Region I
  - Baseline ISFSI Inspections
    - Pre-Operational
    - Operational
  - Event Response & Reactive Inspections



# ISFSI Licensing Requirements

- Pilgrim plans to utilize the General License option under 10 CFR Part 72, Subpart K.
  - Added in 1990 in response to Nuclear Waste Policy Act of 1982
  - Available only to Part 50/Part 52 licensees
  - Requires use of storage cask certified by NRC through rulemaking (10 CFR Part 72.214)
  - Requires site evaluation for compatibility with cask design and subject to NRC inspection (10 CFR Part 72.212)

## General Licensee Obligations

- A general licensee must (10 CFR Part 72.212):
  - Notify the NRC at least 90 days before the first storage of spent fuel in an ISFSI
  - Register use of each cask with the NRC no later than 30 days after using that cask to store spent fuel
  - Perform a site-specific evaluation to ensure compliance with the requirements of the certified storage cask
- Reactor decommissioning funds are not used for ISFSI construction or operations.



# Storage Cask Certification Process

- Cask vendor submits application to NRC
- NRC technical review performed by NRC staff using publically available standard review plan (NUREG-1536)
- Cask is certified through rulemaking:
  - Certified casks are listed in 10 CFR 72.214
  - Term is up to 40 years, but can be renewed
  - Rulemaking process includes opportunity for public comment
  - Rulemaking process includes an Environmental Assessment

# Storage Cask Certification Process

- Technical Areas Considered:
  - Structural
  - Thermal
  - Shielding
  - Criticality
  - Confinement
  - Materials
  - Quality Assurance
- Accidents Considered:
  - Earthquakes
  - Fires
  - Floods
  - Lightning
  - Tornado
  - Air Flow Blockage
  - Cask Drops
  - Cask Tip-Over

## **NRC Inspection & Oversight**

- NRC Inspection Manual Chapter (IMC) 2690, “Inspection Program for Dry Storage of Spent Nuclear Fuel at ISFSIs,” details the ISFSI oversight program
- Two primary inspection components:
  - Vendor
  - Part 50/72 Licensee
- Headquarters, Regional, and Resident Inspectors perform inspection and oversight activities in accordance with NRC inspection procedures (IP)

## **NRC Inspection & Oversight**

- Initial ISFSI operations program inspected by headquarters and regional inspectors during pad construction through first cask loading
- ISFSI operations program inspected every 2 years by regional inspectors
- Resident Inspectors perform day-to-day oversight of ISFSI through reactor oversight process (ROP)
- Vendor design and fabrication programs inspected every 3 years by headquarters inspectors

# NRC Inspection & Oversight

IP	IP Subject
60851	Design Control of ISFSI Components
60852	ISFSI Component Fabrication by Outside Fabricators
60853	On-Site Fabrication of Components & Construction of an ISFSI
60854	Pre-Operational Testing of an ISFSI
60855	Operation of an ISFSI
60856	Review of 10 CFR 72.212(b) Evaluations
60857	Review of 10 CFR 72.48 Evaluations
81311	Physical Security Requirements for ISFSIs

## Summary

- Pilgrim plans to construct and operate an ISFSI in accordance with the general license requirements
- NRC has extensive experience in the regulation and oversight of ISFSIs and plans to perform inspection activities at Pilgrim in accordance with IMC 2690
- Licensees have effectively demonstrated that they can safely load spent fuel into dry cask storage systems and transfer loaded casks into ISFSIs