

# **North Anna**

## **Site-Specific ISFSI License Renewal (SNM-2507)**

Paul Aitken  
Manager Nuclear Engineering

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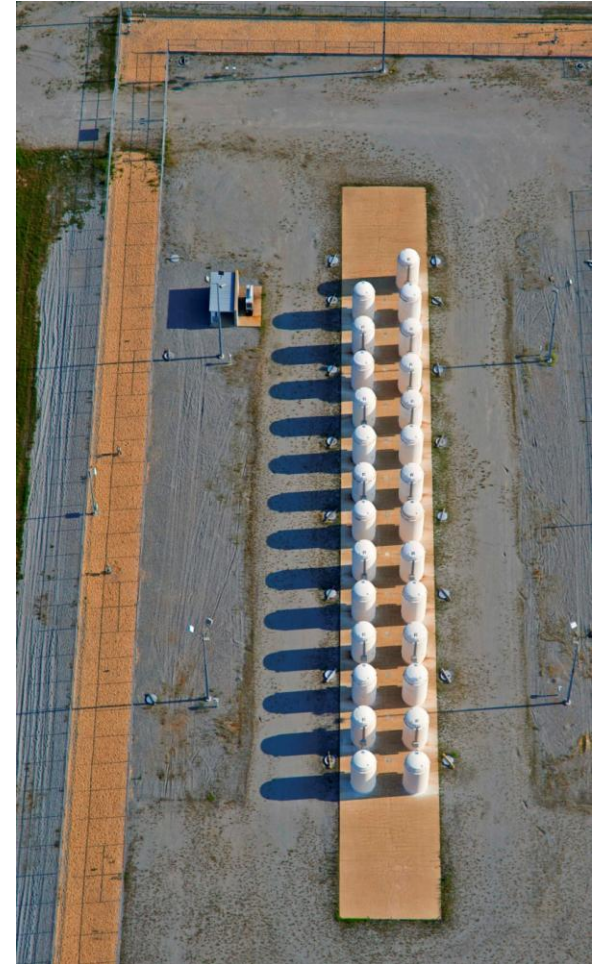


# Agenda

- ISFSI Background
- NRC Regulations & Guidance
- LRA Content
- Lead Cask Inspections
- ISFSI Licensing Activities
- Summary

# ISFSI Background

- Site-specific 20-year license
- Transnuclear TN-32 dry storage casks (27 casks), storing low burn-up fuel only
- LRA for TN-32 casks, stored fuel assemblies, & pad No. 1
- License expires June 30, 2018



# NRC Regulations & Guidance

- 10 CFR Part 72
- 10 CFR Part 51
- NUREG-1927, Rev 0 & Rev 1, as appropriate
- NUREG-1748 (Env. Review with NMSS Programs)
- ISGs
- Other applicable codes & standards

# LRA Content

- General Information (Section 1)
- Scoping Evaluation (Section 2)
- Aging Management Reviews (Section 3)
- Aging Management Programs (App. A)
- TLAAs (App. B) - **None**
- SAR Supplement (App. C)
- Tech Specs (App. D) – **No Changes**
- ER Supplement (App. E)
- Additional Information (App. F) – **Lead Cask Inspections**
- Non-Quantifiable Terms (App. G)

# General Information

- Application Format and Content
- Information Required by 10 CFR 72.22
  - Facility Description
  - Description of Business or Occupation of Applicants
  - Organization and Management of Applicants
    - Virginia Electric and Power Company (VEPCo)
    - Old Dominion Electric Cooperative (ODEC)
  - Financial Qualifications
  - Financial Assurance for Decommissioning

# Scoping Evaluation

- Scoping Methodology
  - Documentation Sources
    - North Anna ISFSI Technical Specifications
    - North Anna ISFSI Safety Evaluation Report
    - TN-32 Dry Storage Cask Topical Safety Analysis Report (TSAR)
    - North Anna ISFSI Safety Analysis Report (SAR)
    - Other – docketed correspondence, etc.
- Scoping Results
  - TN-32 dry storage cask
  - Spent Fuel Assemblies
  - Reinforced Concrete Pad No. 1

# Aging Management Reviews

- AMR Methodology
  - Identification of In-scope Subcomponents Requiring AMR
  - Identification of Materials and Environment
  - Identification of Aging Effects Requiring Management/OE
    - EPRI Tools Documents
    - NUREG-1801
  - Determination of the Activities Required to Manage the Effects of Aging
- AMR Summary Results Table
  - Dry Storage Cask
  - Spent Fuel Assemblies
  - Reinforced Concrete Pad No.1



# Aging Management Programs

- TN-32 Dry Storage Cask Aging Management Program
  - AMP Description
  - AMP Evaluation using NUREG-1927 program elements
  - Parameters Monitored or Inspected
    - Interseal Pressure Monitoring
    - Radiation Monitoring
    - Visual Inspections of TN-32 Casks
  - OE
  - Recommended Enhancements
  - Conclusion – Implementation of current activities with proposed Enhancements will adequately manage aging effects during PEO

# Aging Management Programs

- Monitoring of Structures Aging Management Program
  - AMP Description
  - AMP Evaluation using NUREG-1927 program elements
  - Parameters Monitored or Inspected
    - Groundwater Chemistry Sampling
    - Periodic visual monitoring of Reinforced Concrete Pad No. 1
    - Below grade monitoring if excavated
  - OE
  - Recommended Enhancements
  - Conclusion – Implementation of proposed Enhancements will adequately manage aging effects during PEO

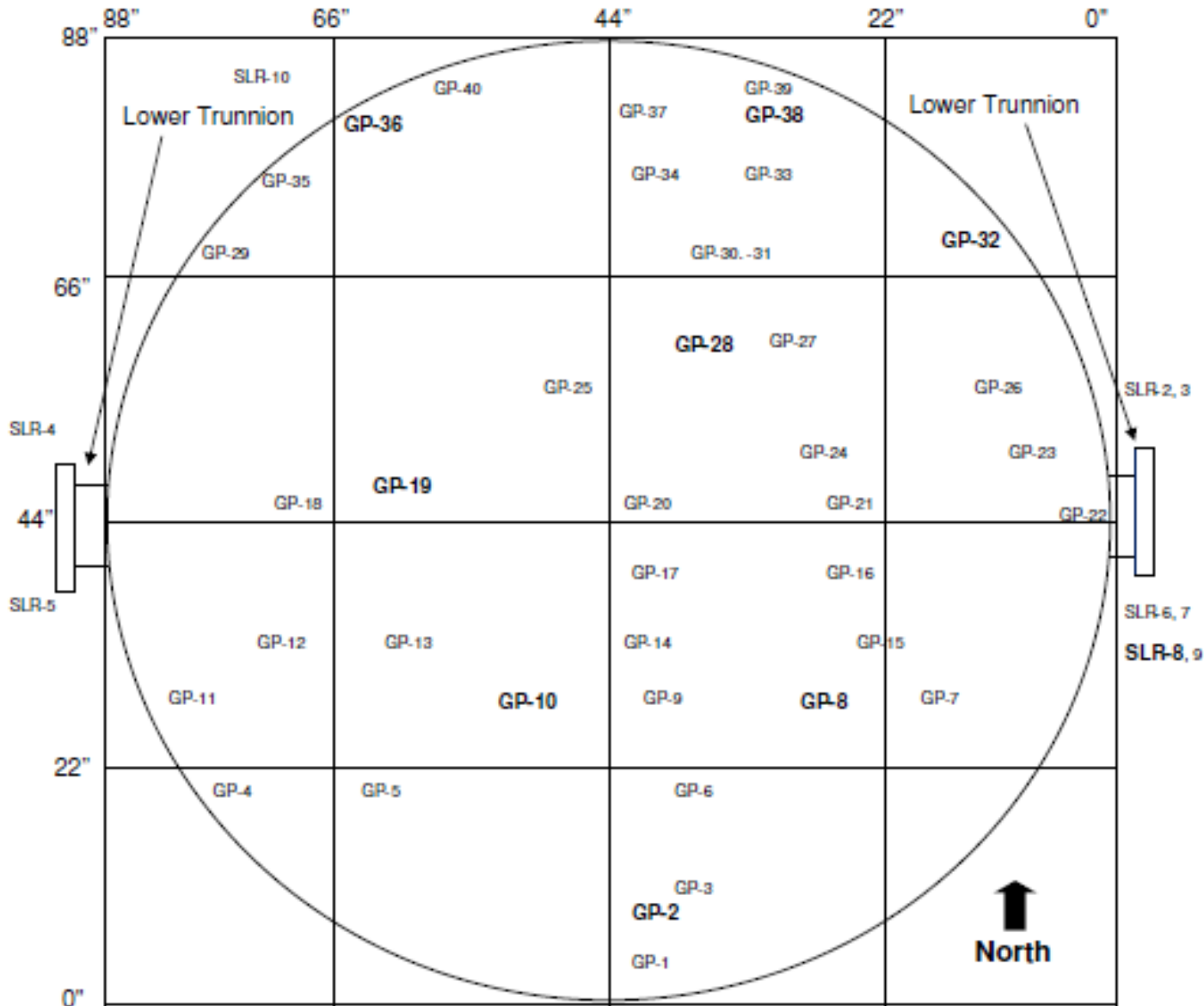
# Environmental Report Supplement

- Alternatives
- Affected Environment
- Environmental Impacts
- Cost-Benefit
  - Proposed ISFSI license renewal for an additional 40 years of operation would provide an economic advantage over other storage alternatives

# Lead Cask Inspections

- Cask Bottom and Cask Top Inspections
- Selection Criteria included
  - physical location
  - accessibility
  - time since loading
  - decay heat
  - seismic impacts
  - prior OE
- Visual inspection techniques (VT-1 and/or VT-3) of cask bottom, protective cover, & components under the protective cover
- Results determined no detectable loss of material from the base metal, and capability to perform intended functions

# Cask TN-32.49 Cask Bottom



# Cask TN-32.49 Cask Bottom



GP-2 showing no detectable  
loss of material from base metal

# Cask TN-32.49 Cask Bottom



GP-19 showing no detectable  
loss of material from base metal

# Cask TN-32.49 Cask Bottom



GP-22 trunnion showing  
no detectable loss of  
material from base metal



# Cask TN-32.49 Cask Bottom



GP-10 showing no detectable  
loss of material from base metal

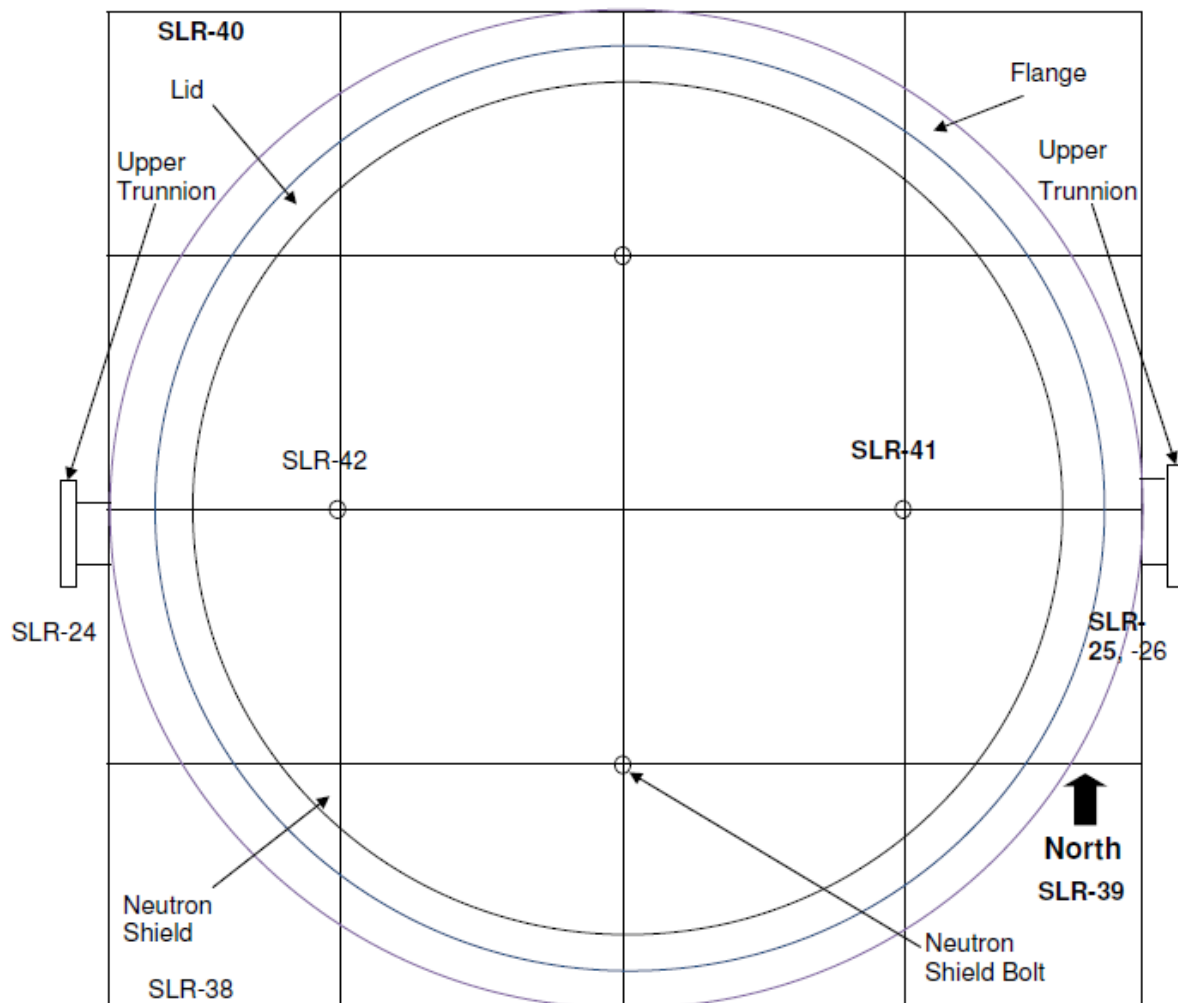
# Cask TN-32.49 Cask Bottom



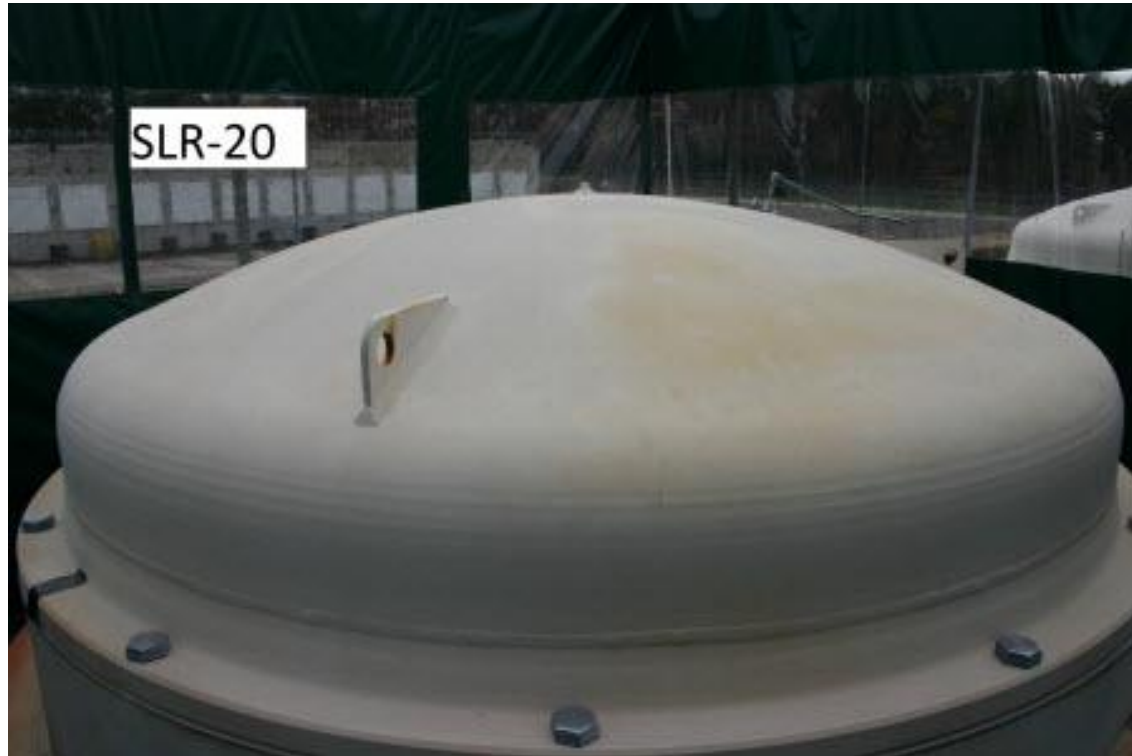
SLR-8 showing no detectable loss  
of material from base metal

# Cask TN-32.23 Top Inspection

SLR-20,  
SLR-35,  
SLR-39



# Cask TN-32.23 Top Inspection



SLR-20 protective cover  
exterior showing no detectable  
loss of material from base metal

# Cask TN-32.23 Cask Top



SLR-35 protective cover interior  
showing no detectable loss of  
material from base metal

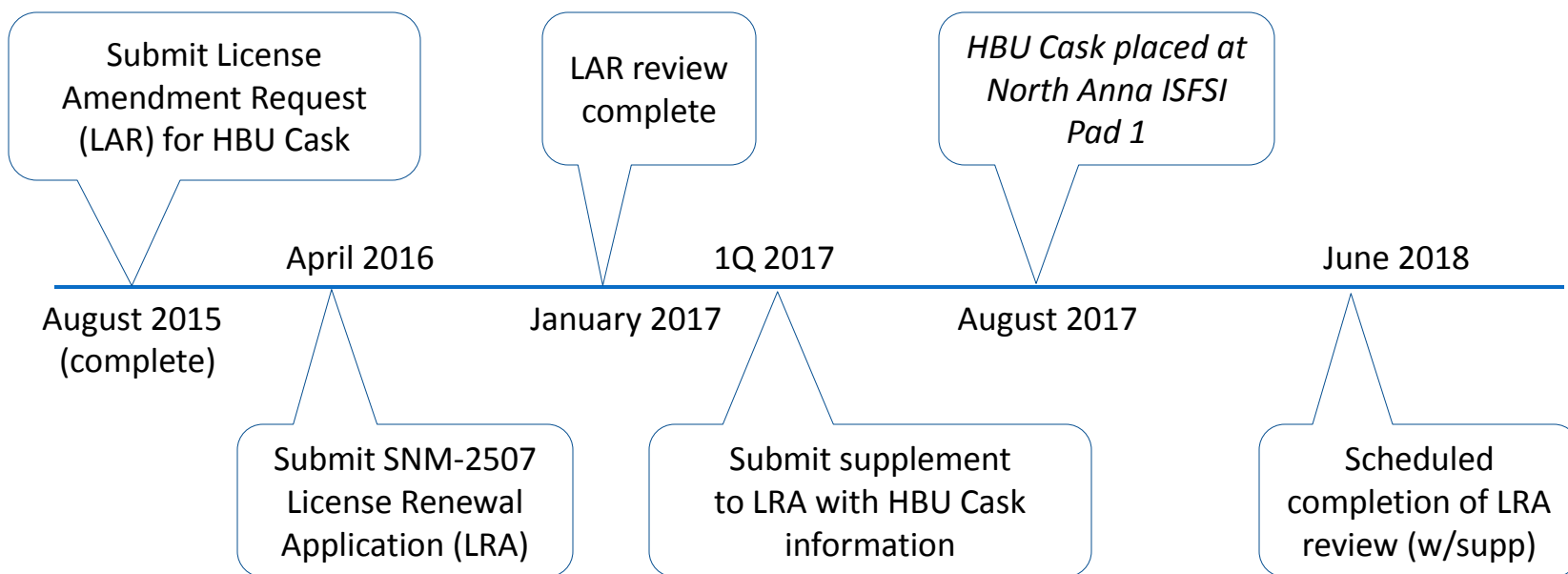
# Cask TN-32.23 Cask Top



SLR-39 cask without  
protective cover showing no  
detectable loss of material  
from base metal

# ISFSI Licensing Activities

## HBU LAR



## License Renewal Activities

# Summary

- Dominion has successful experience with ISFSI license renewal & aging management at Surry Power Station
- ISFSI LRA is compliant with Parts 72 & 51, followed NUREGs-1927 & -1748 and prepared while maintaining active participation with additional regulatory & industry developments
- The effects of aging for the TN-32 dry storage casks and the reinforced concrete pad will be adequately managed so that there is reasonable assurance that the intended functions will be maintained into the Period of Extended Operation