

# FORT CALHOUN STATION

Decommissioning Project Overview  
October 30, 2018



## Agenda:

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**Decommissioning:**

**Decommissioning Status**

**Fuel Overview**

**Dry Storage**

**Storage Modules**

**Fuel Transfer**

**Questions**



FCS ISFSI - 2017

# Decommissioning Status



- Decision made to decommission – 2016
- The original 2016 method was SAFSTOR
- SAFSTOR allows for up to 50 years of fuel storage during which work is effectively minimal
- In 2016, SAFSTOR was slightly favored over deconstruction (D&D)

# Decommissioning Status

- SAFSTOR chosen to allow opportunity to:
  - Better understand decommissioning scope
  - Transition FCS to a project organization (vs. department)
  - Evaluate OPPD self-performance (on time/on schedule)
  - Future financial and regulatory flexibility



# Decommissioning Status

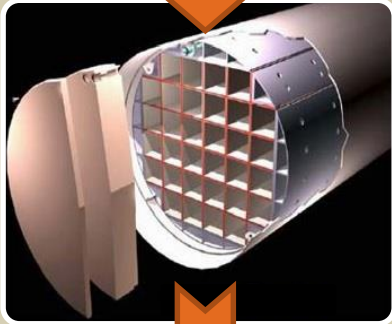
- Current Discussion with the Board regarding a transition to deconstruction (D&D):
  - Eliminates hazards sooner (safety, nuclear, regulatory)
  - Allows availability of existing, experienced FCS personnel
  - Reduces rework; improves work efficiency
  - Provides an opportunity to repurpose the site sooner



# Decommissioning Status

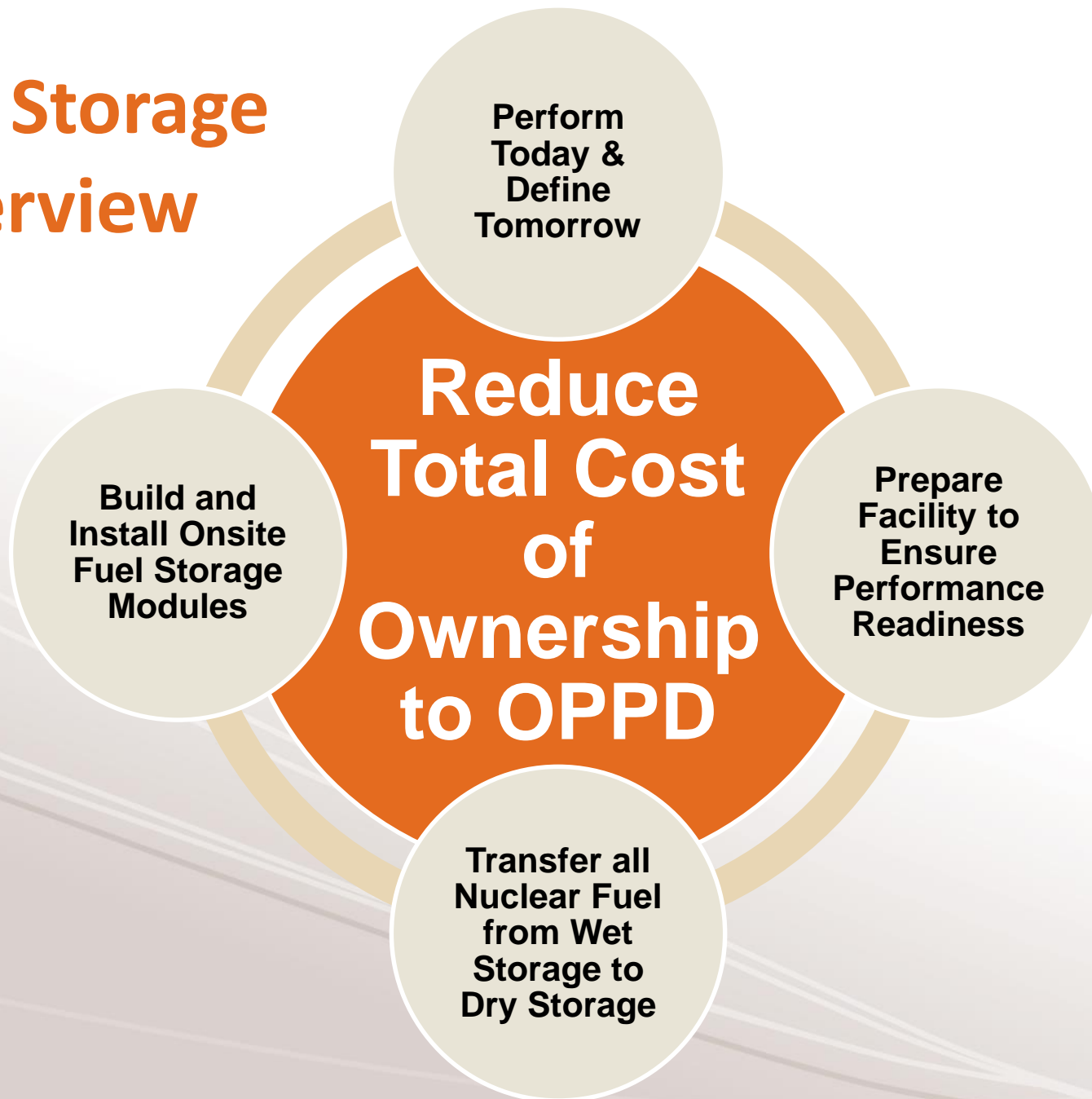
- Primary Focus for the next 18 months:
  - Safe Fuel Storage
    - Fuel within the Spent Fuel Pool is monitored continuously & has multiple safety measures
    - Dry Cask Storage is utilized throughout the industry and has been safely in use at FCS since 2006

# FCS Nuclear Fuel Overview & Status



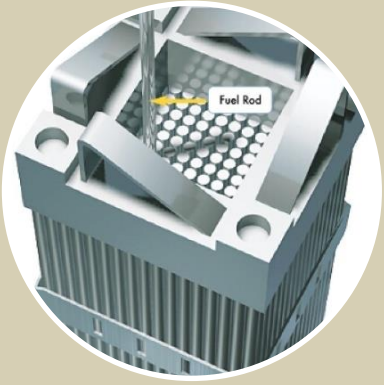
- OPPD has 1264 spent fuel assemblies onsite
  - ❑ 944 fuel assemblies in wet storage
  - ❑ 320 fuel assemblies in dry storage
- Spent fuel assemblies are still producing heat and require:
  - ❑ cooling
  - ❑ Security
  - ❑ adverse event planning
- OPPD will be transitioning wet fuel to dry storage in the next two years

# Dry Storage Overview





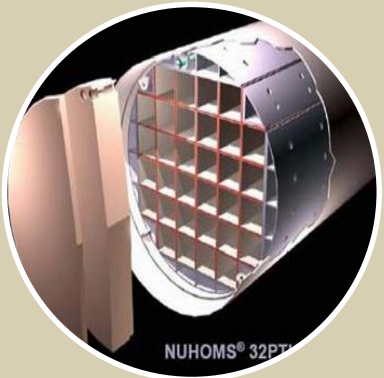
# Dry Storage Project Scope



- Construct concrete long term dry storage facility on-site



- Ensure readiness of heavy load equipment – Cranes and Structures



- Transition fuel assemblies from pool to pad in order to lower expenses and risk to the District

# Dry Storage Resources

- Project is complex and will require District wide resources
  - ❑ Engineering – FCS and Vendor supplied
  - ❑ Licensing – Nuclear Regulatory Compliance
  - ❑ Site & Corporate Safety
  - ❑ Accounting – Project Budgeting
  - ❑ Station & Enterprise Risk Management



# Storage Module Fabrication

- Module Fabrication – Then & Now

- Historical: existing 10 modules were fabricated off-site and shipped in by rail (2006)

- Current: Why on site fabrication?

- Cost Savings

- Less Risk

- Shorter Schedule

- Improved OPPD Production Oversight

- 32 Modules Constructed total in this phase



# Storage Module Fabrication

- 4 Major Components of the Modules
  - ❑ Base – 180,000 lbs.
  - ❑ Roof – 111,000 lbs.
  - ❑ Door – 17,200 lbs.
  - ❑ Overhead Vent Cover – 4,900 lbs.
  - ❑ Miscellaneous parts include steel rails, heat shields, bird screens, and bolting





# Storage Module Fabrication



Overhead Vent Cover



Module Roof



Module Door



Horizontal Storage Module

# Storage Module Fabrication



Placing Roof on Horizontal Storage Module



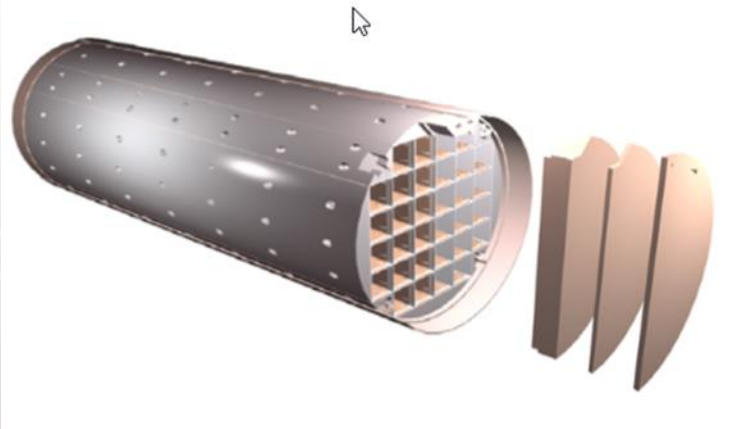
# Storage Module Installation



FCS ISFSI – 2018 In Progress

# Fuel Transfer to Storage Module

- Nuclear Fuel Assemblies Loaded into Dry Shielded Canisters

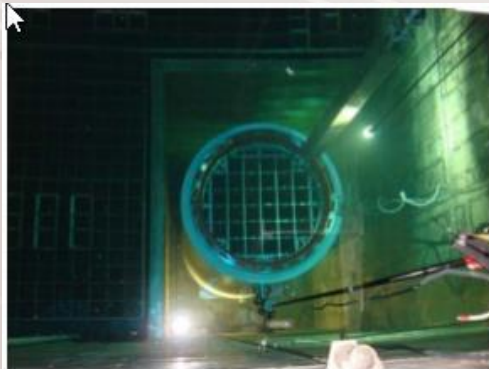


Drawing of a Dry Shielded Canister

- Canisters (which go into HSMs) fabricated in North Carolina by installation vendor

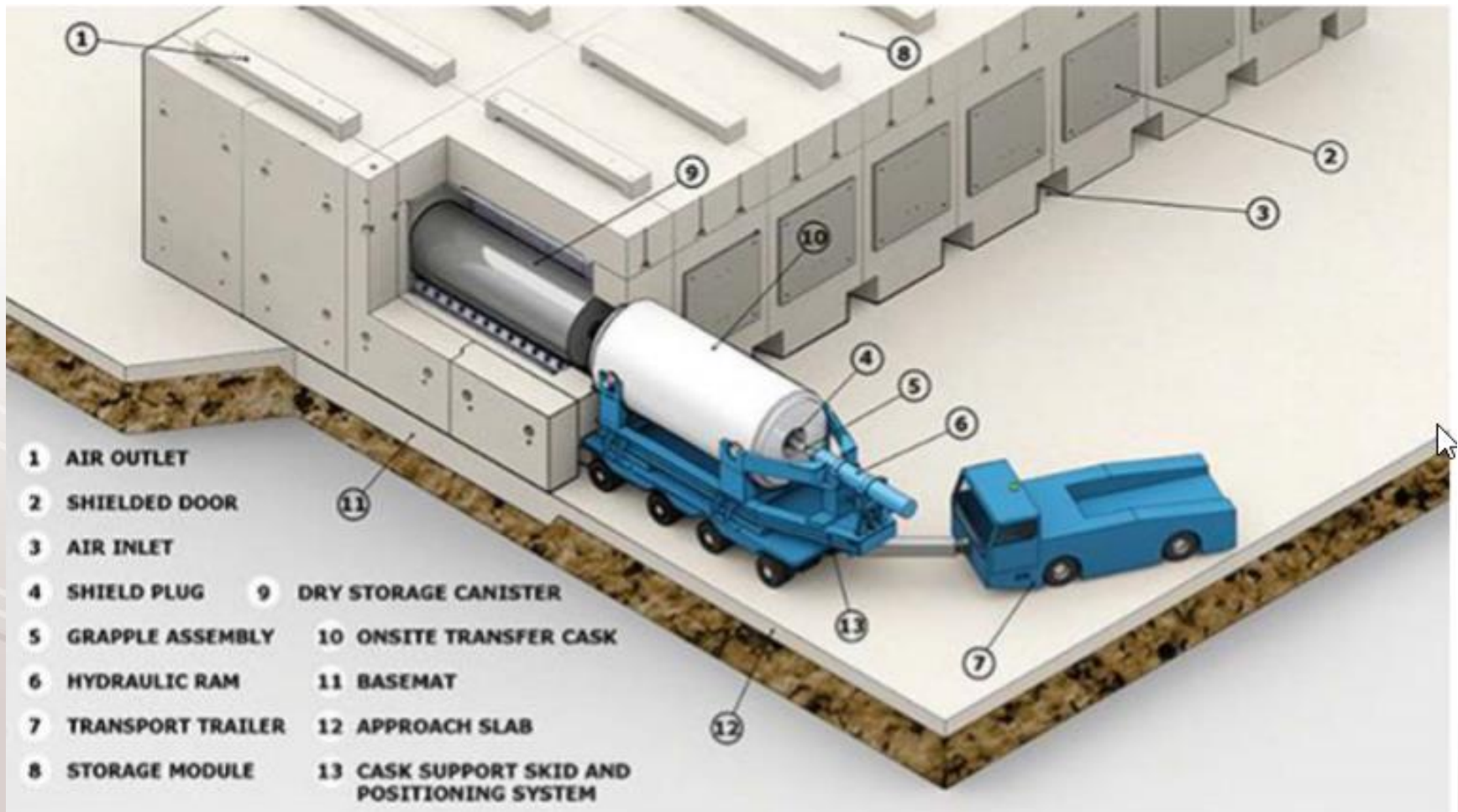
# Fuel Transfer to Storage Module

- Nuclear Fuel Assemblies Loaded into Dry Shielded Canisters
  - ❑ 30 canisters with 32 fuel assemblies per canister
  - ❑ Vacuumed dried and seal welded
  - ❑ Transferred to a transport trailer
  - ❑ Moved to dry storage pad onsite and installed into storage modules





# Fuel Transfer to Storage Module



# Questions?

