



*Entergy*



*NorthStar*

# Entergy-NorthStar Vermont Yankee

## *License Transfer Transaction*

December 1, 2016



# Introductions

T. Michael Twomey  
Vice President, External Affairs  
Energy Wholesale Commodities

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Scott State  
Chief Executive Officer (CEO)  
NorthStar Group Services, Inc.

# Purpose of Meeting

- Transaction Overview
- Process and Timeline for Seeking State and Federal Approval
- Commitment to Employees
- Introduce NorthStar & Teaming Partners
- Overview of NorthStar Decommissioning Approach
- Site Restoration & Reuse After Partial Site Release
- Questions

# Sale of ENVY to NorthStar

- Sale to a specialty Demolition & Decommissioning firm
- Transaction is contingent upon a number of conditions, including:
  - Successful regulatory approval by USNRC and PSB
  - Entergy loading all spent fuel into dry casks by 2018
  - PSB adopting proposed Site Restoration Standards
- NorthStar will:
  - Provide financial commitments that will assure completion of decommissioning
  - Initiate onsite work by 2021
  - Decommission and restore nearly the entire VY site by 2030
  - Obtain NRC approval for partial release of the site (*except the Independent Spent Fuel Storage Installation (ISFSI) and switchyard areas*) by 2030, to allow productive use of this parcel

***NorthStar's decommissioning approach, team structure and financial assurance structure provide performance certainty and cost efficiency***

# Federal and State Approval Processes

- **Nuclear Regulatory Commission:**

Federal agency that must approve transfer of the VY Station NRC operating license and transfer of control of Entergy Nuclear Vermont Yankee (ENVY) from Entergy to NorthStar

- Will review decommissioning plan, financial assurances, technical capabilities

- **Public Service Board:**

State agency that must approve the sale of ENVY and the transfer of the Certificate of Public Good to operate and decommission the VY Station to NorthStar

- Will review several factors to determine if sale is in the public good
- Will also set site restoration standards that are a material part of the transaction

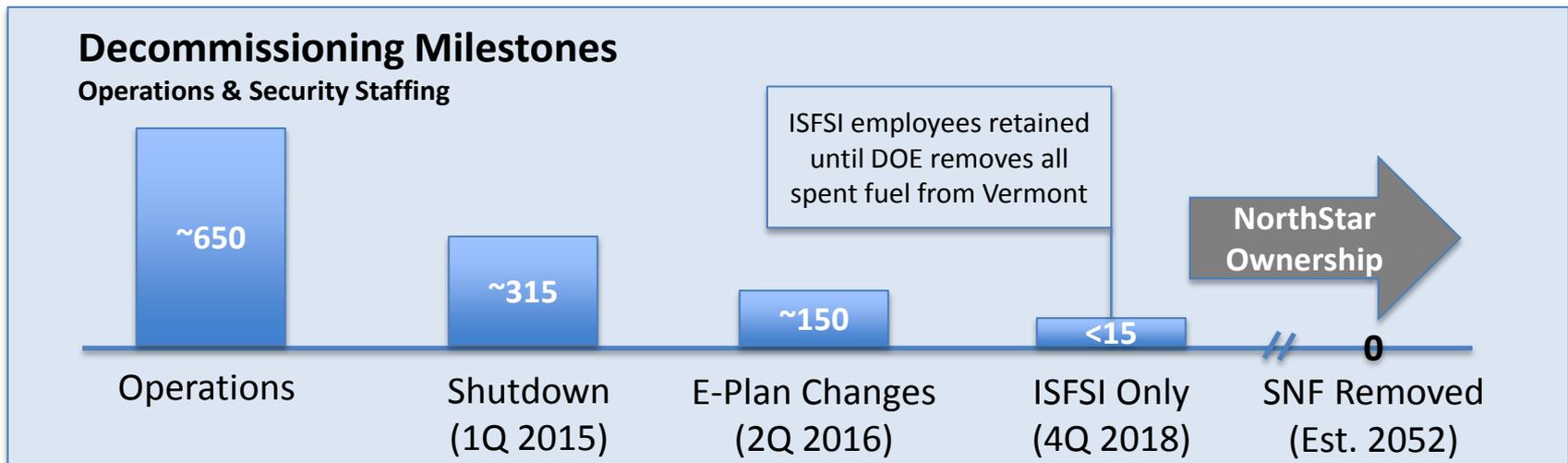
# Transaction Approval Timeline

Milestone	Target Date
File CPG petition with State of Vermont PSB	End of 2016
File license transfer application (LTA) with NRC <ul style="list-style-type: none"> <li>• NRC Pre-submittal Meeting (public)</li> <li>• Submit LTA to NRC</li> </ul>	Jan 2017 Feb 2017
Regulatory approvals - target by 2Q/3Q 2018	2Q/3Q 2018
Complete moving spent fuel moved to ISFSI	3Q 2018
<b>Transaction Close</b>	<b>End of 2018</b>

# Commitment to Employees

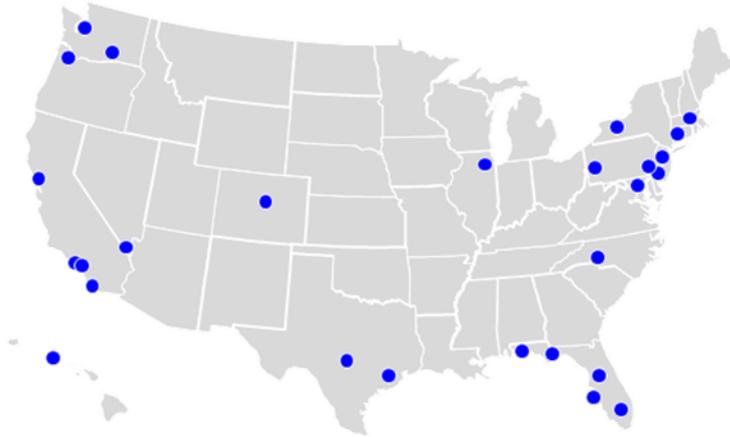
## ISFSI Organization

- ISFSI organization effective when fuel on pad - target date 4Q 2018\*
- Entergy Absorption Program offers employment opportunities within Entergy
- Entergy will also provide outplacement assistance to displaced employees
- NorthStar will offer employment to all ISFSI Organization employees
- NorthStar will provide competitive compensation packages



# About NorthStar Team

## Nationwide Branch Network



## Corporate Headquarters – New York City

- Regional offices in Boston, Chicago, Denver, Orlando, New Jersey and Seattle

- Founded 1986
- Over 25 offices nationwide
- Over 3,500 full time employees
- Safety – 2016 EMR 0.69
- Average Annual Revenues - \$650 million
- Projects Completed >100,000
- NorthStar Team has completed more 300 nuclear and power plant projects in the last 15 years
- #1 Demolition and #1 Abatement Contractor as ranked by Engineering News-Record *(based on annual revenue)*
- Largest Demolition Contractor in the World as ranked by Construction & Demolition Recycling magazine *(based on annual revenue)*

# NorthStar Team: Roles & Responsibilities



**Owner & Lead**

## **Owner and Decommissioning Lead Partner**

- World's Largest Turnkey Decommissioning & Facility Services Contractor
- Abatement & Demolition Contractor
- Extensive nuclear experience
- NorthStar CEO, Scott E. State, P.E. – Chief Nuclear Officer for owner

**Teaming Partners**



## **Vessel and Internals Segmentation / Spent Fuel Support**

- World's leading nuclear fuel and services provider
- Leading expertise in vessel and internals segmentation
- BWR experience: Wüergassen Reactor 320-ton RPV



## **Engineering and License Transfer / Termination Support to Owner**

- Founded in 1898 – 100% Employee Owned
- Over 5,300 professionals – 35 offices worldwide
- Global Full-Service Engineering & Environmental Solutions Firm



## **Waste Management, Packaging, Transportation and Disposal**

- NRC licensed for Class A, B, C & Exempt Low-Level Radioactive Waste
- Texas Compact disposal site
- Pending applications – GTCC and Centralized Interim Storage Facility

# NorthStar Team Experience

	<h2>Major Utility Clients</h2>		<h2>Decommissioning Experience</h2>	
			<h3><u>Nuclear Power Plants</u></h3> <ul style="list-style-type: none"> <li>• Maine Yankee</li> <li>• Yankee Rowe</li> <li>• Connecticut Yankee</li> <li>• Stade PWR</li> <li>• Wuergassen BWR</li> <li>• Rancho Seco</li> <li>• Millstone I</li> </ul>	
			<h3><u>Research Reactors</u></h3> <ul style="list-style-type: none"> <li>• University of Buffalo</li> <li>• University of Illinois</li> <li>• University of Arizona</li> <li>• University of Washington</li> <li>• Dounreay Fast Reactor</li> </ul>	
			<h3><u>Department of Energy</u></h3> <ul style="list-style-type: none"> <li>• Hanford 308-A Reactor</li> <li>• Hanford 309 Reactor (Plutonium)</li> <li>• Hanford 340 Waste Vault (Plutonium)</li> <li>• Y-12 National Security Complex Bldgs. 9769 &amp; 9211</li> <li>• Savannah River Site – K Cooling Tower</li> <li>• Pit 9 Facilities</li> <li>• Environmental Management Program Support</li> </ul>	
				
				
				

# Decommissioning Process - Examples

**NorthStar**  
UNIVERSITY AT BUFFALO MATERIAL RESEARCH CENTER D&D  
BUFFALO, NY

NUCLEAR EXPERIENCE

Cross section of Buffalo BMRC

BMRC Exterior

**AREVA**

**Wuergrass Reactor BWR, Germany**

**BURNS  
MCDONNELL**  
Uranium Fuel Production Facilities

**WCS**  
ANDREWS, TEXAS

# Benefits of NorthStar's Decom Approach

- **NorthStar's core business** is decommissioning and deconstruction
- **Teaming partners committed** to cost and schedule; proven expertise
- **Guaranteed Fixed Payment** approach using pay item cost schedule provides cost certainty, reduces risk
  - Commitment to unique NDT reimbursement approach
- **Performance Bonds** for a majority of the “project work”
- **Fixed Price/Unit Contracts** for teaming partner work
  - Segmentation, waste disposal, rad & non-rad waste clean up
- **Decommission and restore much of the site at the same time:**
  - Less exposure to workers, quicker time schedule, lower costs
  - Non-rad waste material removed with rad-waste shipped to WCS

**The Result: A more efficient approach with greater cost and schedule certainty**

# Accelerated Decommissioning Timeline

## Current ENVY Timeline under PSDAR



## Proposed Timeline under NorthStar License Transfer Application



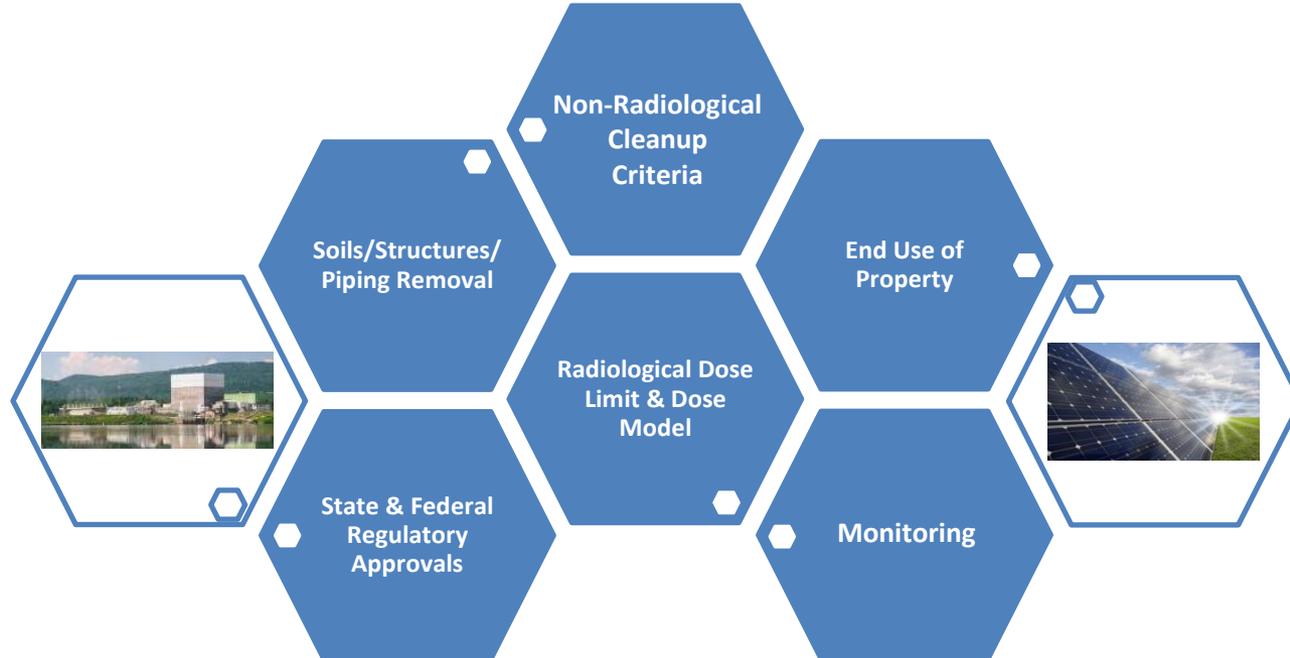
\* Excludes ISFSI

\*\* Assumes DOE Fuel Pick-Up Complete in 2052

# Site Restoration Standards

## ***License Transfer Transaction Objective***

Site Restoration Standards generally consistent with those of other regional decommissioning projects



# Site Restoration Standards

- Transaction closing is contingent on, among other things, PSB approving Site Restoration Standards generally consistent with those proposed by NorthStar
- NorthStar will propose standards compliant with State/Federal regulations and based upon criteria used at regional decommissioned plants, including among others:
  - End Use of Property
  - Radiological Dose Limit
  - Dose Model
  - Non-Radiological Cleanup Criteria
  - Sub-Surface Structures/Piping

***Goal: Earlier site restoration, except for fuel pad and switchyard, for economic use of the property.***

# Redevelopment of VY Site

With active input from public stakeholders, NorthStar will evaluate highest and best use of the site prior to completion of the decommissioning and partial site release.

Preliminary / conceptual site uses may include:

- Light industrial / industrial
- Solar Power Facility



# Questions?