Simple Priorities

SAFETY with all we do: Target Zero (accidents)
Radiological, Environmental, Industrial, Nuclear

Do it right. Do it safe.
## Project Schedule – Overview (Re-Cap)

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<thead>
<tr>
<th>Task</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
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<th>2025</th>
<th>2026</th>
<th>2027 to 2051</th>
<th>2052</th>
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<tbody>
<tr>
<td><strong>NorthStar Ownership (Target 01.11.2018)</strong></td>
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<td><strong>Partial License Termination (Target 12.31.2026)</strong></td>
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<td><strong>License Termination (Est. 12.31.2052)</strong></td>
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<td><strong>Dry Fuel Storage Program (Fuel on ISFSI - Dec. 31, 2018)</strong></td>
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<td>Completed by Entergy</td>
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<td><strong>Large Component Removal (RPV, RPVI, etc.)</strong></td>
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<td>Engineering &amp; Planning</td>
<td>Complete - March 2022</td>
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<td><strong>Decontamination &amp; Decommissioning</strong></td>
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<td>Pre-Closing Work</td>
<td>Complete - December 2026</td>
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<td><strong>Spent Fuel Management</strong></td>
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<td>ISFSI Operations and Management (2019 thru 2026)</td>
<td>ISFSI Only Operations Period (2027 thru DOE Fuel Pick-up)</td>
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</tbody>
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*Notes:*  
- **NorthStar Ownership (Target 01.11.2018)**: Indicates the period during which the owner is responsible for the site.  
- **Partial License Termination (Target 12.31.2026)**: Marks the end of the partial license period.  
- **License Termination (Est. 12.31.2052)**: The expected date when the license is fully terminated.

*Key Dates:*  
- **2019**: Final Site Restoration & License Termination.
Performance Update

• SAFETY: Acceptable
  Zero NorthStar OSHA Recordable Lost Time Accidents to date with over 350,000+ person hours worked on site

• REGULATORY: GOOD
  NRC: Zero Cited and Non-Cited Violations for all of 2019, and for 2020 so far to date.

• PRODUCTION: Acceptable
  Overall project schedule on track. Reactor removal project remains slightly behind, bulk decom work and Site Characterization advancing ahead of initial projections
Reactor Vessel Segmentation Update

Reactor Head DONE
Steam Dryer DONE
Steam Separator DONE
Shroud Head In-Progress
Feedwater Sparger In-Progress
Tooling Checked/Reset/Adjusted
Support systems maintenance (PCS, water filtration, WPS-AF/FF, etc.,)

Steam Separator was one of the more (if not the most) complex segmentation efforts.

Next component (primarily the Top Guide, aka; Upper Core Grid) has been carefully evaluated, and designated as Greater Than Class C (GTCC) waste due to higher activation levels.
Completion of Steam Separator Segmentation
Refuel Floor Set up / Steam Separator Segmentation

- Shroud Head with cyclones removed
- RWC BSK-1A transferred to SFP
- PCS being lowered back into DSP
- PCS being removed for maintenance
Steam Separator Segmentation (Rx internals)

Setting up final segmentation Bandsaw

Installing final segmentation Bandsaw in SFP

Guiding basket (of cyclones) thru xfr canal

Baskets full of cyclones awaiting packaging
Turbine Building / Steam Plant Demo
With insulation abatement complete, workers prep/remove smaller steam lines with hand tools, gaining access to larger piping & components, such as Turbine Stop/Control valves.
Turbine Building/ Steam Piping & Component Removal

Workers prep to cut Feedwater system piping/valve for removal.

Diamond wire saws used to reduce large components into manageable sized pieces. (1/2 of a Feedwater Heater shown)
Feed Water Sys/ Steam Piping & Component Removal

Steam/Feedwater pipe cuts

“Manageable” sized pieces

Turbine Stop Valves removed

All steam lines “must go”

Lifting Feed Htrs to Turb Deck

Packaging Gondola Railcars
Shipping and Material Volumes

- Currently shipping about 3 rail cars per week to WCS (averaging 11 shipments per month 1/06/20 thru 4/24/20)

- Total number of shipments to date: 98

- Total Volume 226,800 ft$^3$ (8,400 cyd)

- Total Weight 10,600,000 lbs (5,300 tons)

- Total Activity 147 curies

- Rail car inventory increased to eliminate turn-around-time impact and accommodate higher volumes anticipated as demolition rate continues to improve.
Non-Rad Site Characterization/Remediation

Much progress made with support and efforts of regulatory agencies.

ANR/ATC review complete of SSI Report submitted 1/31/20 and comments received. Changes/revisions in process.

The revised Supplemental Field Program and Supplemental Site Investigation reports submitted on January 31, 2020 included updated information on a number of AOCs;

- AOC 3 - South Warehouse
- AOC 7 - Fuel Storage Tanks
- AOC 8 – Transformers
- AOC 5 - Turbine Building Area
- AOC 12 – Edson’s Garage
- AOC 13 – Septic System and Residual Spreading Areas
- AOC 15 - Cooling Towers
- AOC 16, - Railroad
- AOC 17 – Groundwater
Non-Rad Site Characterization/Remediation

• What’s Happening now

  • Remediation plans (3 so far) designed and submitted to ANR on 4/13/20 to clean up and close out those Areas of Concern (AOC’s 3, 7 & 8) (CAPs presently in Public Comment period)

  • Four rounds of Quarterly Groundwater Sampling completed. NO anomalies or new source terms identified.

  • Next groundwater sampling planned in May, in coordination with ANR/ATC representatives. Four additional wells drilled/developed to improve sample data accuracy.

  • Annual Report submission on track for end of April.
Non-Rad Site Characterization/Remediation

• What’s Happening now? (Cont’d)

  • Revised/completed SWPPP Plan
  • Completed Post Mold Abatement Sampling evaluation (with No Further Action recommended)
  • Iterative (additional) select sampling of paint/coatings, building materials per State Agencies’ direction to ensure effective characterization and controls prior to demo activities.
  • Submittal to and concurrence from ANR on building characterization for removal of the Warehouse and AOG structures.
  • Continued collaboration with VT ANR, DEC via Bi-Weekly calls to maintain alignment.
Upcoming Demo for Warehouse & AOG (re-cap)
QUESTIONS?