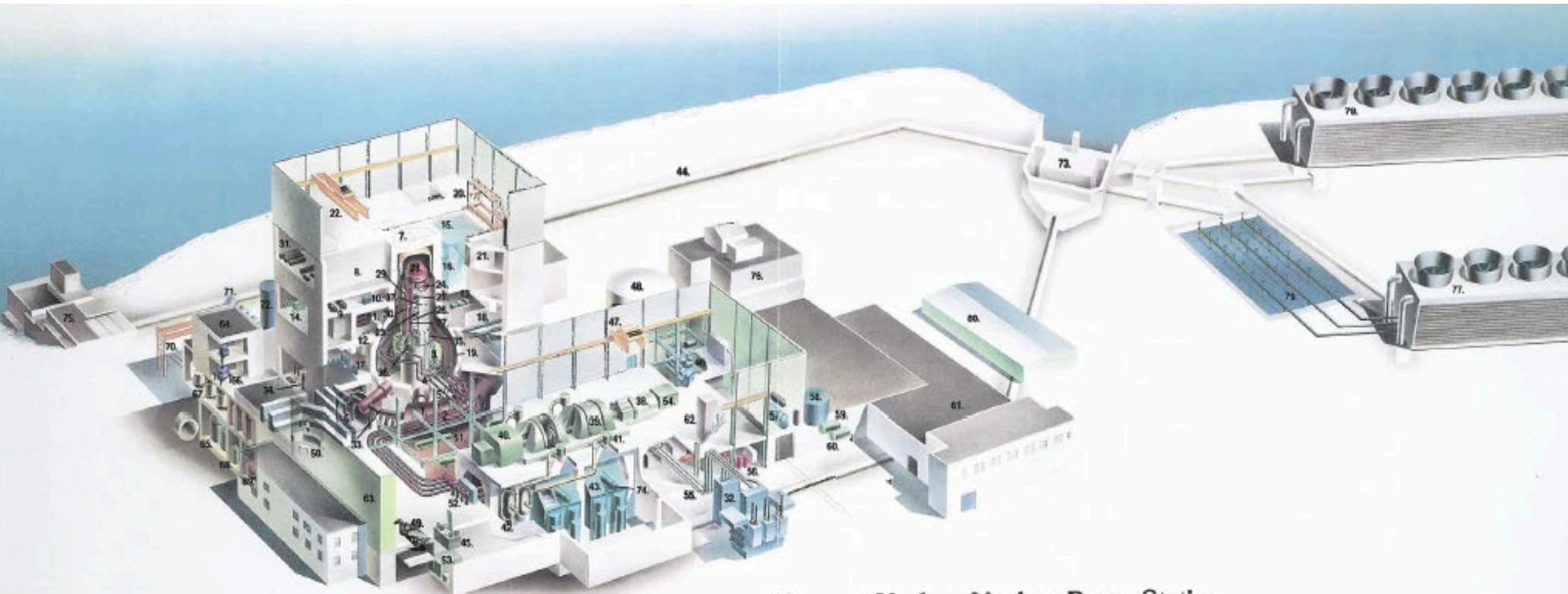


NorthStar VTY Decommissioning



Vermont Yankee Nuclear Power Station

NDCAP Update 9/21/2020

- | | | | |
|---|----------------------------------|-----------------------------------|--------------------------------------|
| 1. Tonsa | 21. New fuel storage vault | 41. Intercept valve | 61. Receiving and stores |
| 2. Main steam lines | 22. Overhead crane | 42. Moisture separator | 62. Elevator |
| 3. Recirculation pump | 23. Biological shield wall | 43. Main condensers | 63. Turbine building |
| 4. Inboard main steam isolation valve | 24. Steam dryer | 44. Cooling water recirculation | 64. Rad waste building |
| 5. Outboard main steam isolation valve | 25. Steam separator | 45. Turbine oil tank | 65. Condensate phase separator tanks |
| 6. Downcomers | 26. Fuel assemblies | 46. Emergency diesel generators | 66. Centrifuge |
| 7. Shield plug | 27. Reactor vessel | 47. Overhead crane | 67. Cask filling area |
| 8. Dryer/separator storage pool | 28. Vessel head | 48. Condensate storage tank | 68. Spent resin tank |
| 9. Reactor building cooling water heat exchangers | 29. Main steam outlet | 49. Feedwater pump | 69. Waste sludge tank |
| 10. Reactor building cooling water pump | 30. Recirculation water outlet | 50. Control room | 70. Traveling hoist |
| 11. Reactor water cleanup heat exchanger | 31. Uninterruptible power supply | 51. High pressure heaters | 71. Sample tanks |
| 12. Reactor water cleanup pump | 32. Main transformer | 52. Main stop valve | 72. Surge tank |
| 13. Vital AC motor generator set | 33. Ring header | 53. Turbine lube oil storage tank | 73. Discharge structure |
| 14. Recirculation motor generator set | 34. RHR service water pump | 54. Excitation cubicle | 74. Low pressure heaters |
| 15. Fuel pool (spent fuel storage) | 35. Recirculation inlets | 55. Main generator leads | 75. Intake structure |
| 16. Spent fuel rack | 36. Manifold | 56. Make-up demineralizers | 76. Advanced off-gas building |
| 17. Hydraulic control units | 37. Feedwater inlet | 57. House heating boiler | 77. West cooling tower |
| 18. Standby gas treatment | 38. Generator | 58. Clearwell | 78. East cooling tower |
| 19. Primary containment wall | 39. Low pressure turbine | 59. Acid storage tank | 79. Spray pond |
| 20. Refueling bridge | 40. High pressure turbine | 60. Caustic storage tank | 80. Warehouse |

NorthStar Nuclear Decommissioning Company, LLC



Simple Priorities

SAFETY with all we do: Target Zero ( accidents)

Radiological, Environmental, Industrial, Nuclear

Do it right. Do it safe.



Performance Update

- SAFETY: **Acceptable**

Zero NorthStar OSHA Recordable Lost Time Accidents to date with over 500,000+ person hours worked on site since sale on January 11th 2019.

- 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 continues advancing ahead of initial projections

Project Schedule – Overview (Re-Cap)

	2020	2021	2022	2023	2024	2025	2026	2027 thru 2051	2052
Spent Fuel Management	█	█	█	█	█	█	█	█	█
Site Restoration & Final Site Survey	█	█	█	█	█	█	█	█	█
Large Component Removal	█	█	█						
Reactor Vessel & Internals	█	█	█						
Condenser		█	█						
Large Pumps & Motors (Circ H2O, Recirc, etc)		█							
Main, Start-Up & Aux Transformers			█						
Decontamination & Demolition	█	█	█	█	█	█	█		█
Asbestos& Lead Paint Removal	█	█	█	█	█	█	█		█
Security Structures and Equipment	█	█	█	█	█	█	█		█
Turbine Warehouse	█	█	█	█					█
Aog	█								█
Rotors and Storage Structures		█							█
Stack		█	█						█
Intake		█	█	█	█				█
Reactor Building			█	█	█	█	█		█
Admin Building				█					█
Control Building				█					█
Rad Waste						█	█	█	█
Discharge						█	█		█
Service Building						█			█

Partial Site Release

License Termination (ISFSI) Target 12.31.52)

Final Site Restoration & License Termination

Reactor Vessel Segmentation Update

Reactor Head DONE
Steam Dryer DONE
Steam Separator DONE
Shroud Head DONE
Feedwater Sparger DONE
Top Guide (Upper Grid) DONE
Guide Tubes In Process
Core Plate In Process

Support systems activities and maintenance on-going as required (PCS, water filtration, WPS-AF/FF, Crane adjustments, etc.,)



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

Upper Core Grid was main constituent of the Greater Than Class C (GTCCC) material.

Next components: primarily the Control Rod Guide Tubes (CRGTs) and Core Plate Assembly

RV Closure Head

Steam Dryer

Steam Separator

Upper Core Grid

Guide Tubes

Core Plate Assembly

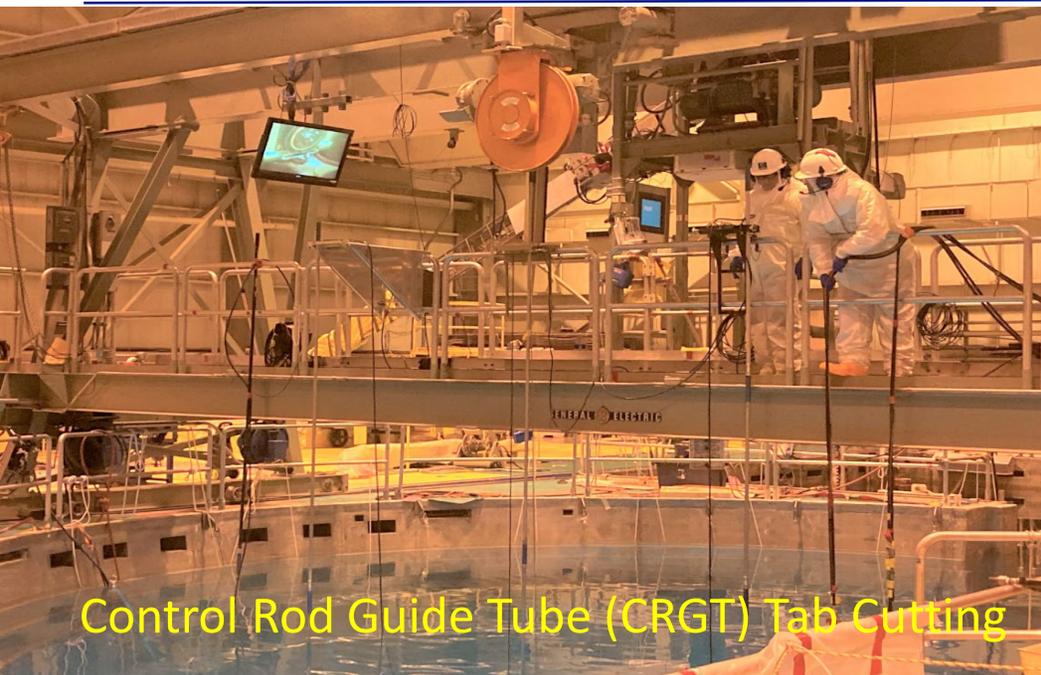
Shroud Cylinder

Jet Pump Assemblies

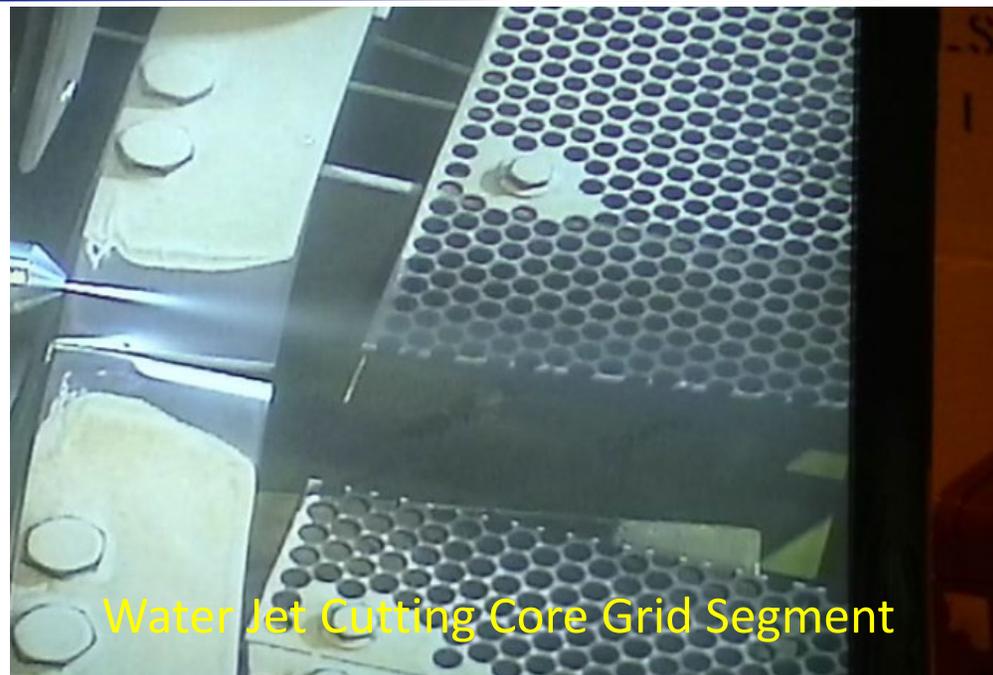
RV Nozzles

Reactor Vessel

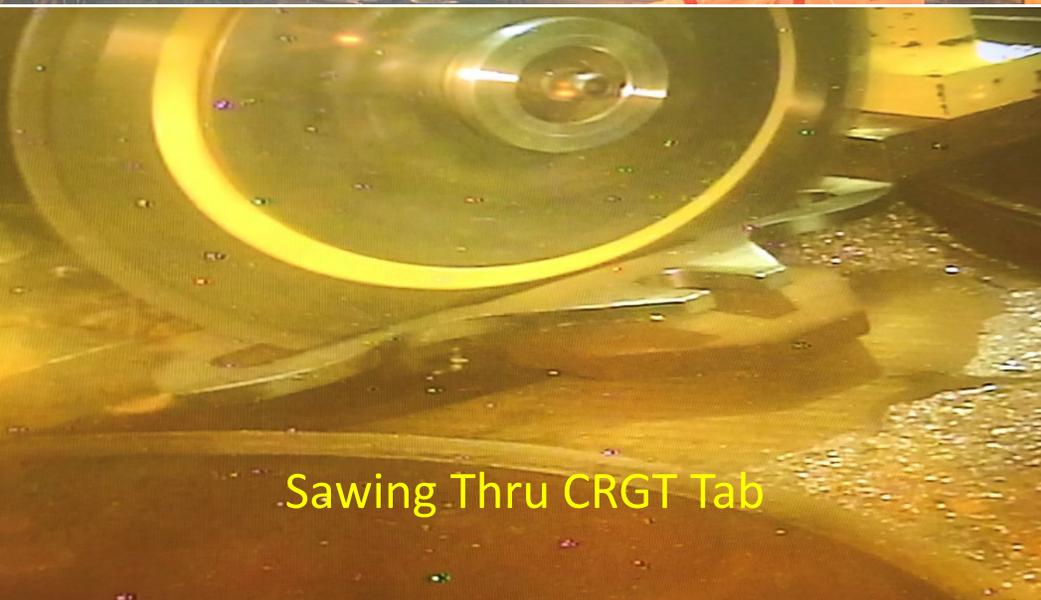
Upper Core Grid Segmentation



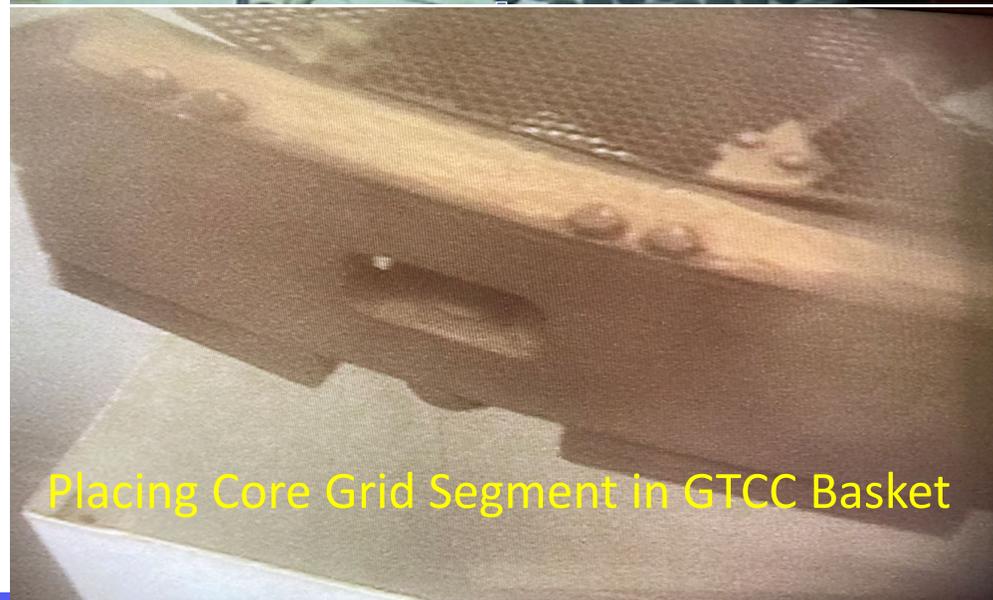
Control Rod Guide Tube (CRGT) Tab Cutting



Water Jet Cutting Core Grid Segment

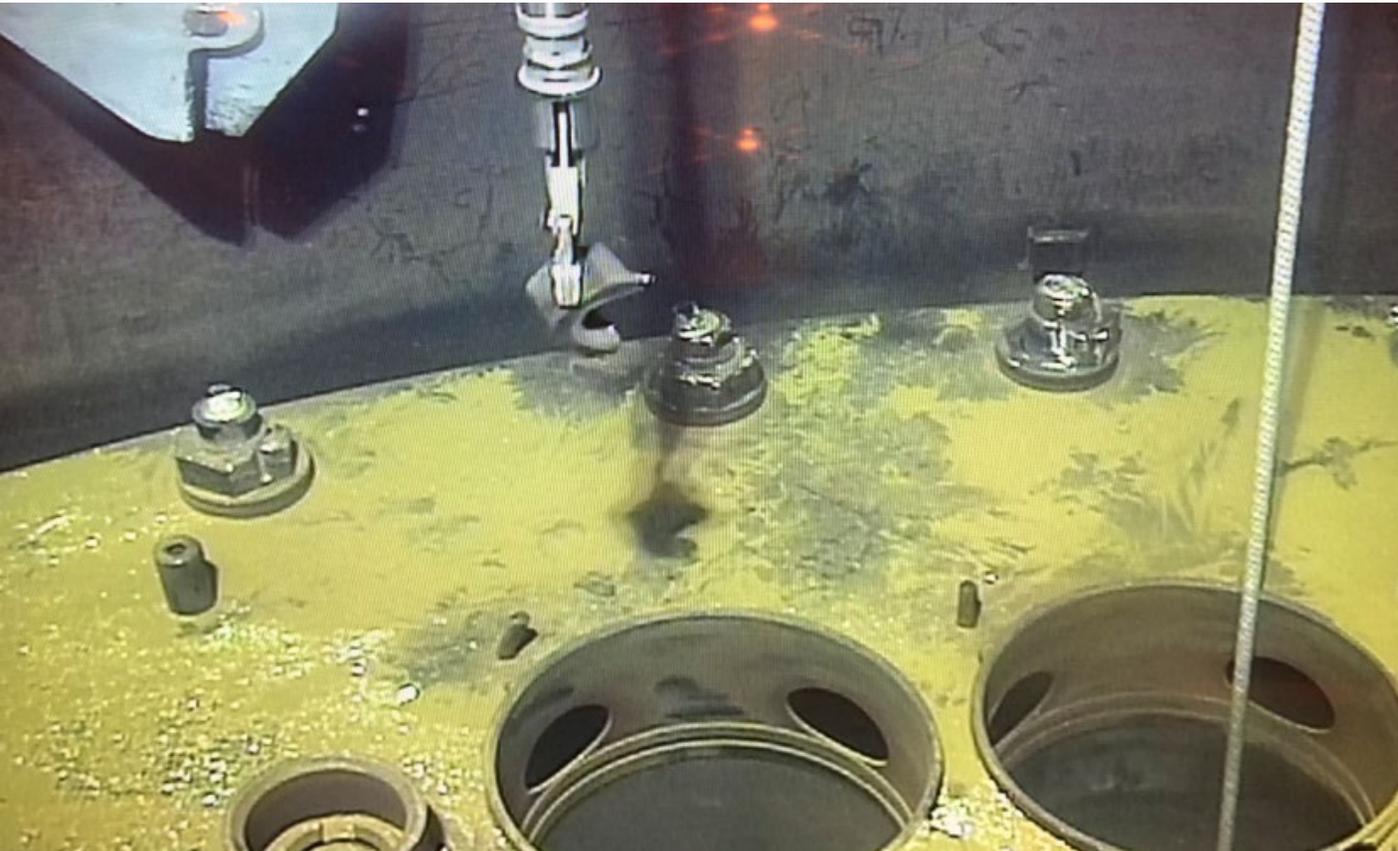


Sawing Thru CRGT Tab



Placing Core Grid Segment in GTCC Basket

Vessel Segmentation (Rx internals)



Core Plate Bolt Removal

Collecting Removed Bolts



Vessel Segmentation (Rx internals)



Control Rod Guide Tube



Removal



Sequence

Vessel Segmentation Work Support Activities



Removing Filter Pump Assembly for Motor Replacement



Pump/Motor Disassembly

Turbine Building System and Equipment Removal



Turbine Building/ Steam Piping & Component Removal

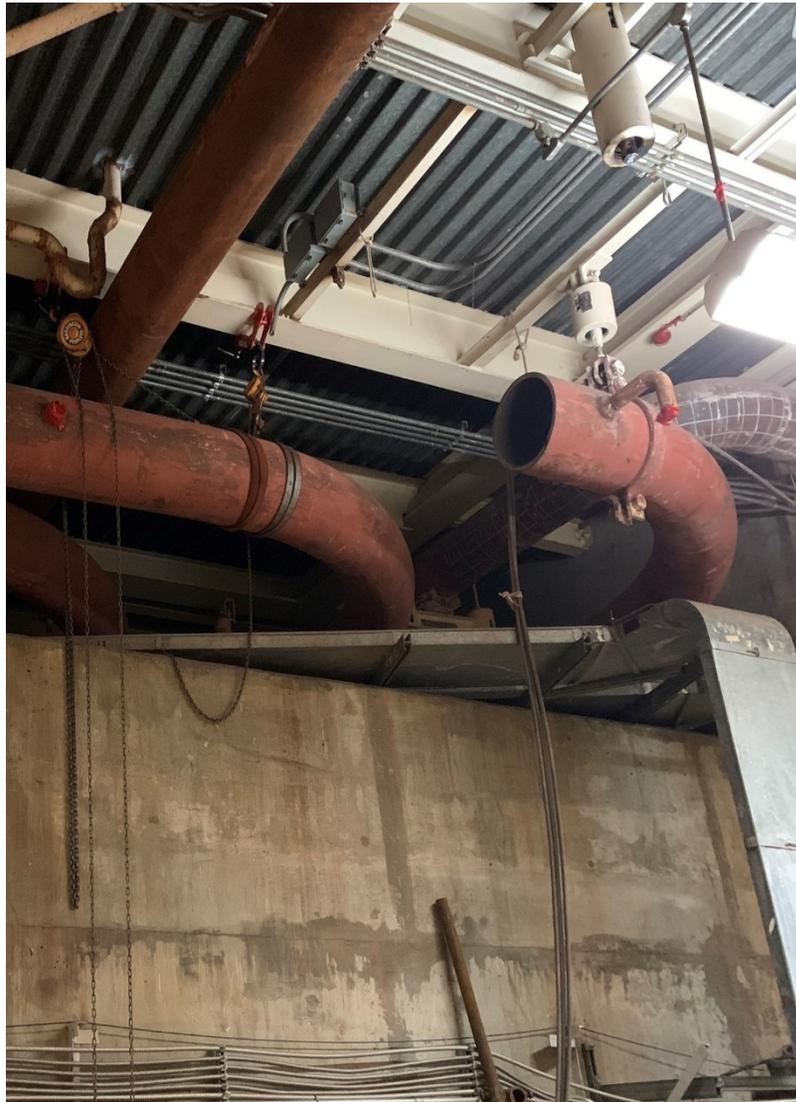


Piping Removal 248' Heater Bay Area



Torch Cutting Condensate Lines by Condenser

Turbine Building/ Steam Piping & Component Removal



Main Steam Line Removal (In-Progress)

All Main Steam Piping Removed from "Steam Shelf" all the way to Reactor Building Wall Penetrations

Turbine Building / Steam Plant Demo Continues



Heater Bay East Side



System/Equipment Removal



Turb South / Air Sigs Removed



System/Equipment Removal



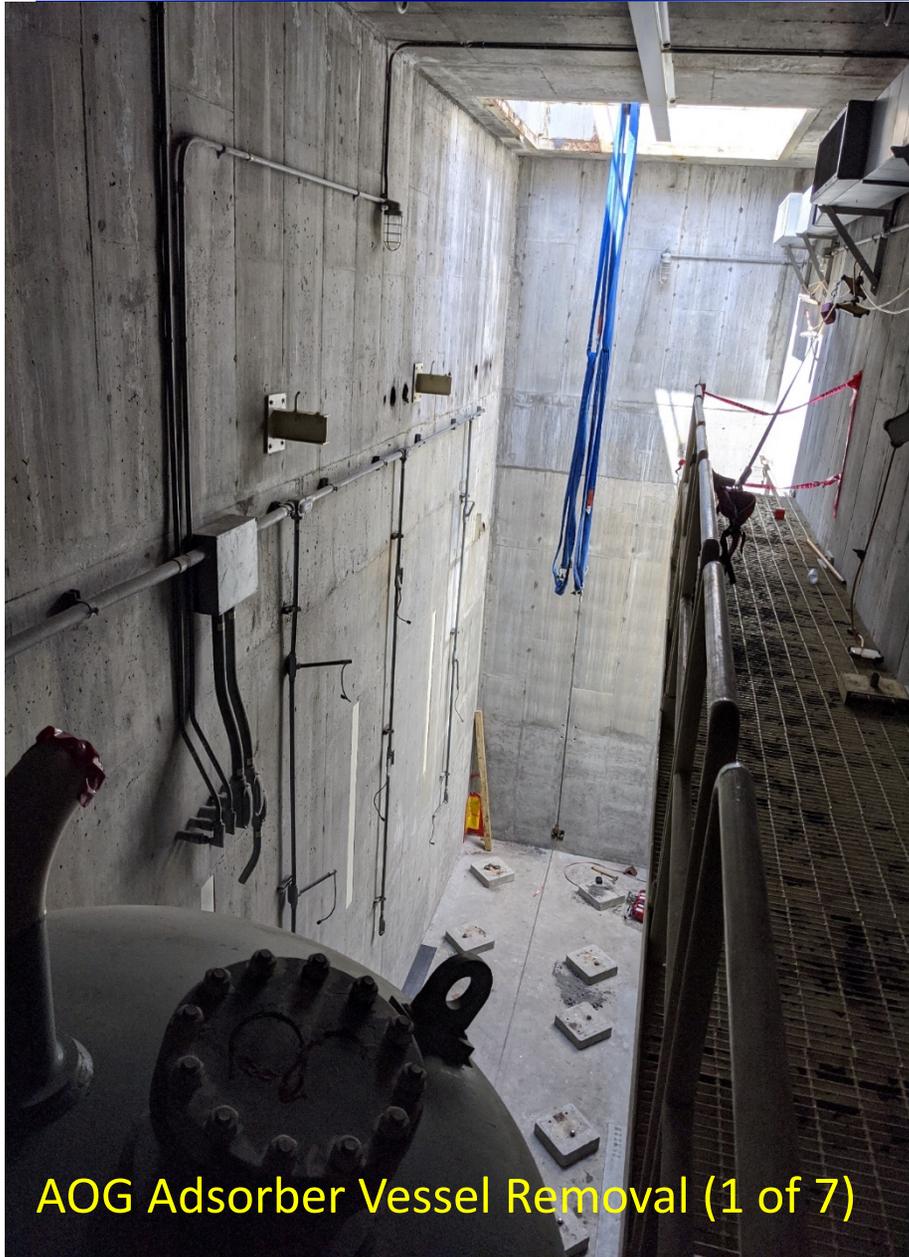
Packaging Removed Equipment



Staging Material for Shipping

Ongoing Demolition within Turbine Building Structure remains ahead of schedule for removal of Steam Piping and Power Generation Systems/Equipment Large Components.

AOG Final Component/Material Removal (Demo Prep)



Demo for Warehouse/Office & AOG (re-cap from 5/4/20)



Warehouse and Maintenance Office Structure Demo



Warehouse and Maintenance Office Structure Demo



Warehouse/Maint Office Structure Debris Removed



AOG Structure Demo



AOG Structure Demo



AOG Structure Demo



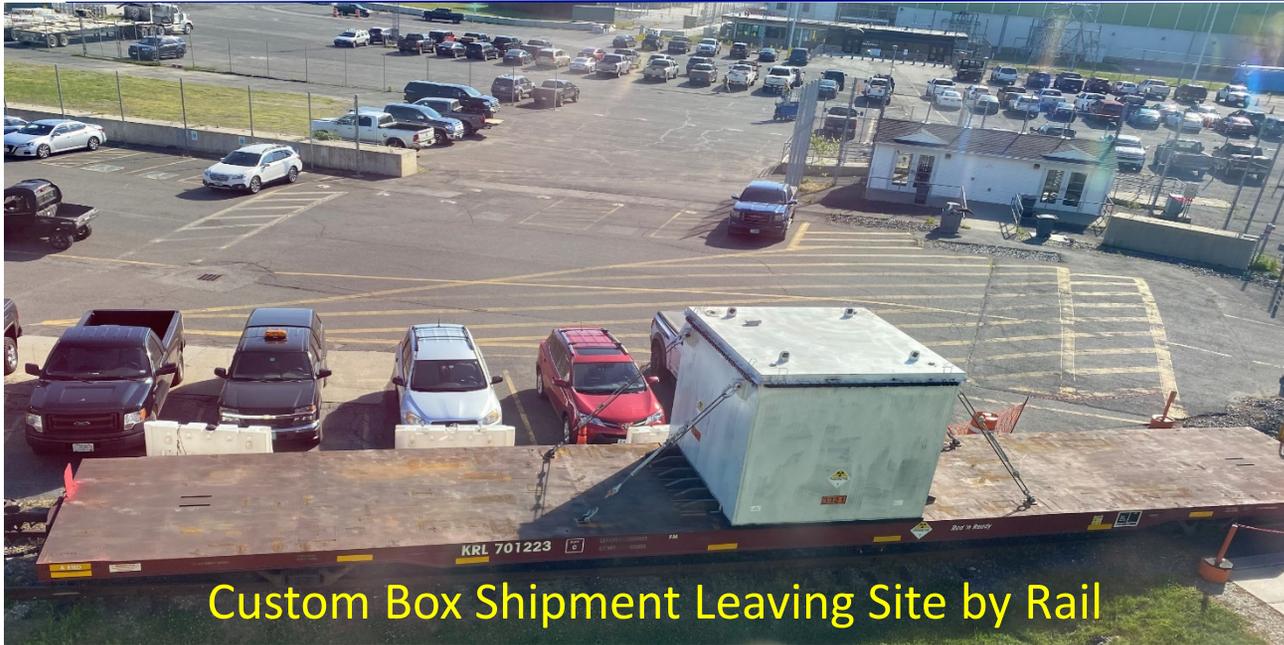
AOG Structure Demo



AOG Structure Demo



Material Transport Operations



Custom Box Shipment Leaving Site by Rail



AOG Adsorber Vessel (1 of 7)
Loading for Shipment



Resin Vessels Loaded to Cask for Shipment

Shipping and Material Volumes

- Currently shipping about 3 rail cars per week to WCS (averaging 14 shipments per month Jan 2020 thru Aug 2020)
- Total number of shipments thru Aug 2020: 113
- Number of Shipments to Date: 171
- Total Volume 350,000 ft³ (13,000 cyd)
- Total Weight 19,000,000lbs (9,500 tons)
- Total Activity 400 curies

Non-Rad Site Characterization/Remediation

- Much progress continues with support and efforts of regulatory agencies.
- ANR/ATC review complete of SSI Report submitted 1/31/20 and comments received. Final addendum issued.
- 3 Corrective Action Plans (**AOC's 3, 7, & 8**) have been through Public Notice process and are Approved.
- 2 additional Corrective Action Plans (for AOC 5 and AOC 7) in development. (for Historical diesel leaks previously identified/actioned)

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 & Residual Spreading Areas

AOC 15 - Cooling Towers

AOC 16, - Railroad

AOC 17 – Groundwater

Non-Rad Site Characterization/Remediation

- What Else is Happening
 - 7 rounds of Quarterly Groundwater Sampling completed. NO anomalies or new source terms identified.
 - 75,000 gal Fuel Oil Storage Tank (FOST) was removed
 - Next groundwater sampling planned in Nov, in coordination with ANR/ATC representatives.
 - Annual Report was submitted in April and has been subsequently Approved.
 - Risk Evaluation completed. Currently with State Agencies for review.

Non-Rad Site Characterization/Remediation

- What's Else is happening? (Cont'd)
 - All Building Coatings evaluated, no additional materials determined to require disposal as Hazardous Waste.
 - Worked with ANR to permit Potable Water System modification
 - Continued collaboration with VT ANR, DEC via Bi-Weekly calls to maintain alignment.
 - Dewatering Permit Public Comment Period scheduled for 9/22/2020.

Other Infrastructure Adjustments



Fence Fabric Removal



"Pulling" Fence Posts



Block Removal Preparations



VBS Block removal

External Building Demo/Infrastructure Adjustments



West SOCA (Security Entrance) Demo



West SOCA/Fencing/VBS Removed

Other Infrastructure Adjustments



Resurfaced Entrance Road



Resurfaced Rail Crosswalk



Questions?

Target Zero ( accidents) Do It Right. Do It Safe.

