

Summary of State Permitting  
Requirements for VY Decommissioning  
& Demolition Activities

Summary of Non-Radiological Site  
Characterization Report Received from  
NorthStar

# Vermont Yankee Nuclear Decommissioning Citizen Advisory Panel Meeting

**October 16, 2019**

**Emily Boedecker, Commissioner**

*Vermont Dept. Environmental Conservation*

# Decommissioning Permitting: Stormwater

- The project will require an **Individual Construction Stormwater Permit**;
- The permit application (#5653-INDC.1) is currently under technical review.
- Timeline:
  - Technical review through mid-late November;
  - Draft permit prepared following technical review;
  - Draft permit decision and application materials will be posted for 30 days on DEC Environmental Notice Bulletin;
  - Final permit anticipated – January 2020
  - The permit will be authorized for 5 years.
- Other: the site currently has operational and MSGP permit coverage

# Decommissioning Permitting: Rivers

- Removal of the intake and discharge structures requires an Individual **Stream Alteration Permit**;
- Required technical documentation includes project design drawings of the restored streambank including plan view, cross sections, existing and proposed conditions, high water line.
- Timeline:
  - Northstar anticipates permit application submittal by Spring or Summer of 2020;
  - A draft permit will be prepared w/n 14 days of the application being deemed administratively and technically complete;
  - The draft permit decision and application materials will be posted for 30 days on DEC Environmental Notice Bulletin;
  - The permit will be authorized for 5 years.

# Decommissioning Permitting: 401 Water Quality Certification

- DEC has not yet made a final determination regarding issuance of a 401 Water Quality Certification
  - ACOE 404 Permit application details will be reviewed to better assess potential resource impacts;
  - Draft 404 permit conditions developed by the ACOE will also further inform appropriateness of issuing a 401.

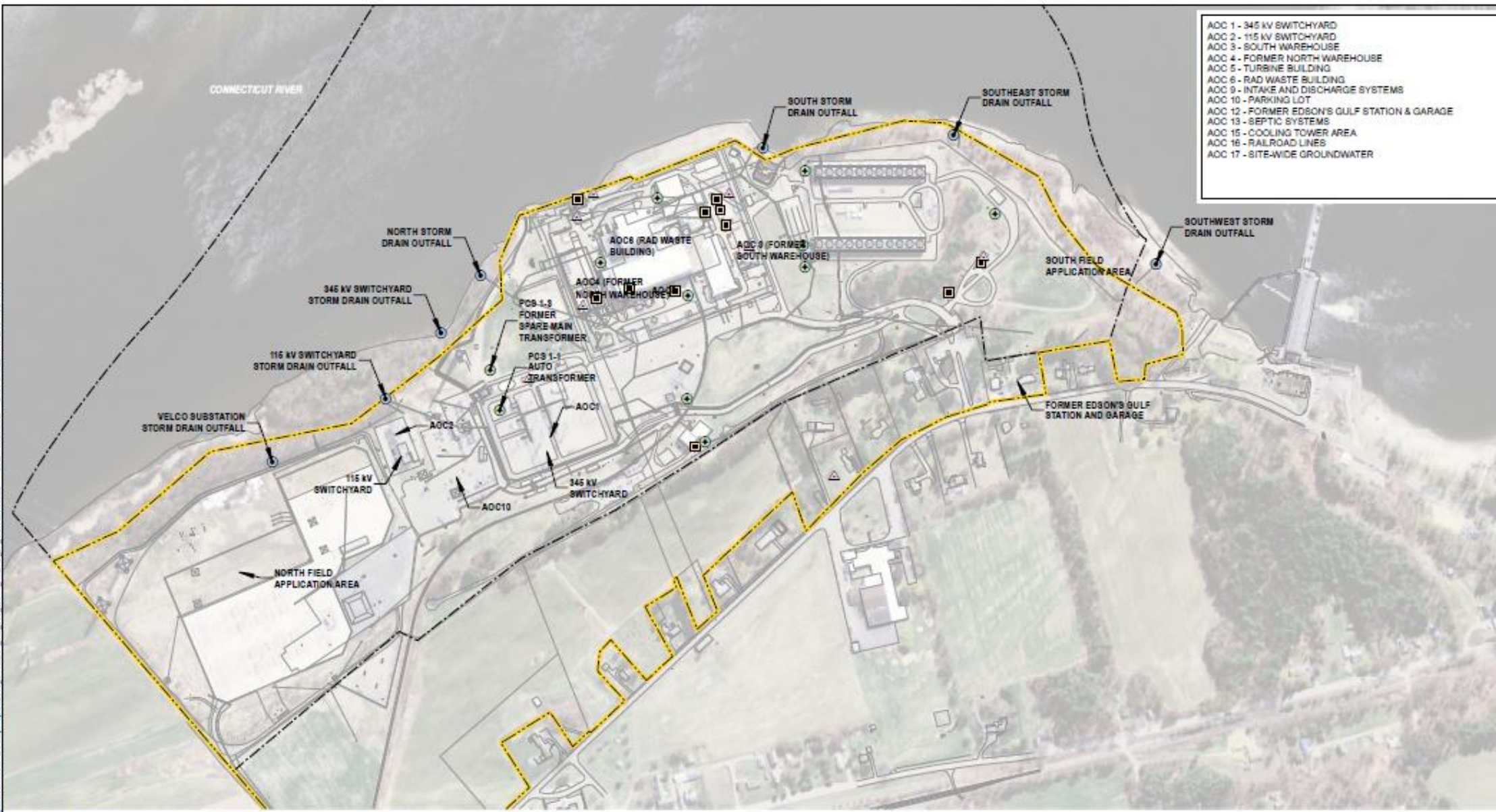
# Limited Non-Radiological Site Investigation Report

- Workplan approved by DEC on June 21, 2019
- Report submitted by Haley & Aldrich on July 11, 2019
- Investigated 17 Areas of Concern identified in the previous Phase 1 Environmental Site investigation
  - Samples from groundwater at existing monitor wells
  - Drilled new boreholes and took grab samples
  - Soil samples



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- AOC 1 - 345 KV SWITCHYARD
- AOC 2 - 115 KV SWITCHYARD
- AOC 3 - SOUTH WAREHOUSE
- AOC 4 - FORMER NORTH WAREHOUSE
- AOC 5 - TURBINE BUILDING
- AOC 6 - RAD WASTE BUILDING
- AOC 9 - INTAKE AND DISCHARGE SYSTEMS
- AOC 10 - PARKING LOT
- AOC 12 - FORMER EDSON'S GULF STATION & GARAGE
- AOC 13 - SEPTIC SYSTEMS
- AOC 15 - COOLING TOWER AREA
- AOC 16 - RAILROAD LINES
- AOC 17 - SITE-WIDE GROUNDWATER



**LEGEND**

- AREAS OF CONCERN**
- AOC 7 - FUEL OIL STORAGE TANK
  - AOC 8 - TRANSFORMER (OUTSIDE BUILDINGS)
  - ▲ AOC 11 - HAZARDOUS MATERIALS/WASTE STORAGE AREA (NON-RAD)
  - AOC 14 - STORMWATER OUTFALL

- EXCLUSION AREA
- SITE BOUNDARY

**NOTES**

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. BASE MAP SOURCE: VERMONT YANKEE NUCLEAR POWER STATION
3. AERIAL IMAGERY SOURCE: ESRI



**HALEY ALDRICH**  
 VERMONT YANKEE NUCLEAR POWER STATION  
 320 GOVERNOR HUNT ROAD  
 VERNON, VERMONT

**AREAS OF CONCERN**

JULY 2019

FIGURE 4-1

# Review: Site Investigation Report

- Site investigation report was reviewed by DEC and ATC (DEC technical support contract)
- ATC review letter comments were:
  - Generally rather minor in nature, which will require clarification from H&A
  - Should not require substantial investigation or re-write of report
- DEC is reviewing report also, no official response yet; initial impressions agree with ATC and Hayley & Aldrich conclusions

# Results: Site Investigation Report

## **Limited non-radioactive contamination impacts from the plant operations.**

- Some shallow soil contamination with polyaromatic hydrocarbons (PAHs) and chlorinated solvents
- Some shallow groundwater contaminated with volatile organic compounds near fuel tanks and main transformer
- Perfluoroalkyl substances (PFAS) near site main transformer fire
- No water supply contamination
- No bedrock well contamination
- Vanadium was uniformly distributed in all soil samples above the Vermont soil standards
  - No evidence of these concentrations being the result of plant operations.
  - Hayley & Aldrich statistical analysis suggests naturally occurring



# Hayley & Aldrich: Future Work

- Continue with quarterly groundwater monitoring
  - 2 rounds completed so far, 1<sup>st</sup> round results in report
  - 3<sup>rd</sup> round planned for November
- Install permanent monitor wells at select sample locations where grab samples showed contamination
- Perform a formal Risk Assessment following additional data
- Submit a workplan to continue site characterization to fill in data gaps that they identified in the site investigation report
- Some site investigation can be best performed once structures have been demolished and removed
- Conducted groundwater pump testing in front of the turbine building to inform design of a groundwater interception system to prevent clean water from infiltrating the Turbine Building basement.

# Ongoing Work

- Asbestos abatement observation continues at the turbine building, advanced Off-Gas building.
- Asbestos work was completed at cooling towers with no anomalies
- Site-wide asbestos review was conducted by ATC and Hillman
- Split sampling of groundwater samples during the 2<sup>nd</sup> round by ATC, H&A received 9/30, not yet analyzed
- DEC approved H&A soil management plan to dispose of ~15,000 yd<sup>3</sup> stock-piled soils
  - Sampling showed low levels of semi-volatile organic compounds, total petroleum hydrocarbons, and 4,4-DDT
  - Will be used to balance rail carloads and fill cavities in radioactive waste components that are being shipped to WCS in Texas.
  - Soil disposal documentation will be provided
  - Post soil removal sampling will be done at the stockpile locations