Secondary Containment Project Update

vermont electric power company

VELCO

Operating Committee

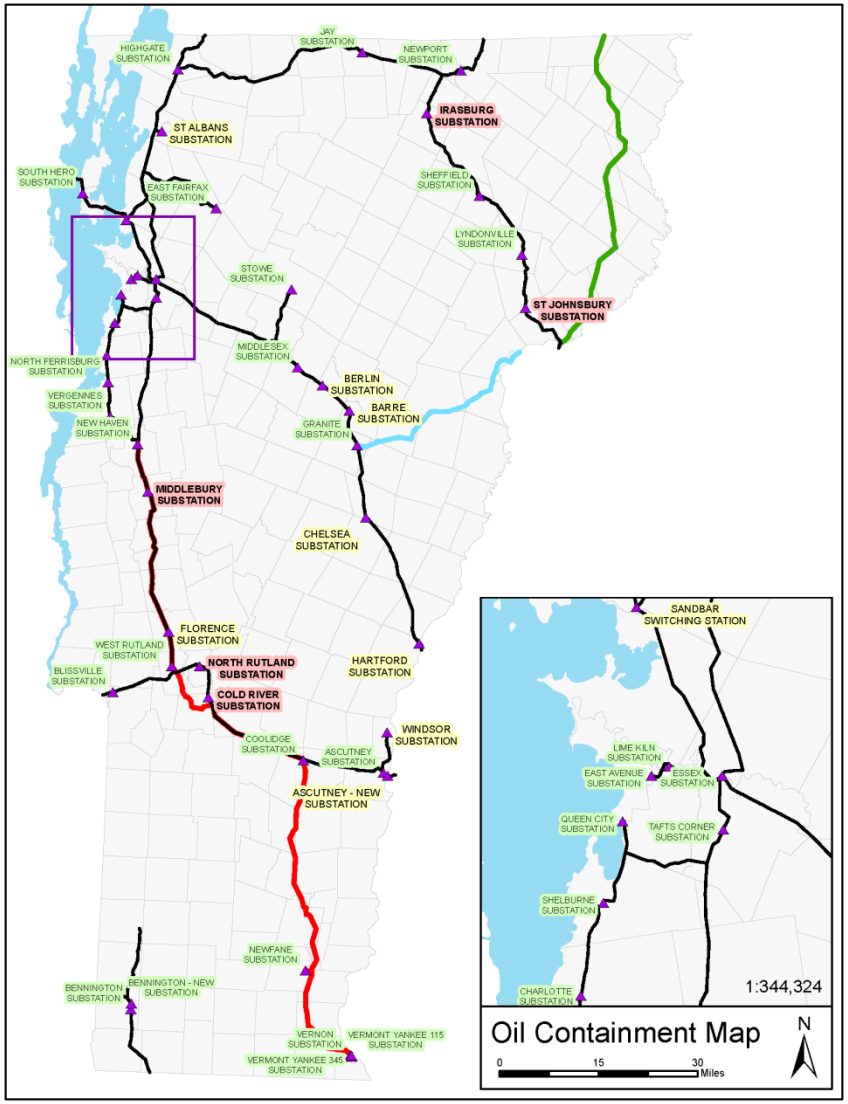
August 20, 2015

Project Overview

Summary:

VELCO's substation assets can be classified into three groups:

- substations recently (since 2000) constructed/refurbished
- Substations targeted for refurbishment as part of the Substation Condition Assessment Project (SCAP) or CRVP
- ***Remaining substations***
  - The project scoping included a focus on the remaining facilities that do not have adequate oil containment systems and where no other capital upgrades are planned



Project Need

- Primary focus is at substations with no or inadequate secondary oil containment

- Fulfills company responsibility to protect against uncontrolled oil spills, especially near sensitive receptors such as waterways or endangered species, which would be impacted by the spill and cleanup work

- Other benefits of secondary oil containment systems include:
  - Minimize environmental impact
  - Reduces response and recovery time
  - Reduces risk of equipment impacts
  - Reduces costs to remediate/recover released oil
  - Aligns with requests from the Vermont Agency of Natural Resources (ANR) on recent project proceedings

- Additional project objectives include the assessment and repair (as necessary) of critical station yard components

Project SOW

Site Selection:

– Leveraged GIS data to perform risk ranking of facilities including:
  - Unprotected oil volumes
  - Distance to streams, wetlands and other protected environmental resources
  - Site constraints
  - Age of transformers
  - Past spill data
  - Nearby drinking water supplies

Scope Development:

– Include use of revised design to lower installation and O&M costs

– Leverage assessment methodology developed as part of Substation Condition Assessment Project (SCAP)
  - Adequacy of substation “yard” stone
  - Grounding grid evaluation
  - Structural analysis of steel and concrete foundations

SITE NAME	XFMR ID W/OUT CONTAINMENT	Age of Unit	Oil Quantity (Gallons)	Stream Distance	Wetland Distance	SPA Distance	RTE Distance
NORTH RUTLAND	H71	2007	4550	500 Feet	500 Feet		
MIDDLEBURY	H72	1971	4970	500 Feet	500 Feet		
ST JOHNSBURY	X22	1972	5350	500 Feet	500 Feet		
COLD RIVER	H89	1980	4660	500 Feet			
IRASBURG	H39	1962	4600				500 Feet

Project Preliminary Costs & Schedule

Cost Estimate:

- Approximately $400K per site, totaling $2M (without contingency)
- Assumes no permits are necessary
- Includes the installation of our standard oil containment design, which reduces labor costs

Schedule:

- Site priority ranking: Q3 2015
- Evaluation & Assessments: Q4 2015
- Engineering of high priority sites: Q4 2015
- Phased construction: 2015-2017
  - Allows for the coordination with other planned work

Asset Classification:

- Per Section 4 (a) of the Criteria for “SPECIFIC FACILITIES” of the 1991 VTA, these improvement meet the classification of common facilities
- The containment facility will remain common facilities

Next Steps

- Receive & Incorporate OC feedback
- Develop project schedule & work plan
- Prepare site assessments
  - Surveys
  - Structural assessment
  - Grounding evaluation
  - Engineering services