

VELCO SHEI Project Alternatives

vermont electric power company



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Project Alternatives that Involve VELCO Facilities

- Highgate Synchronous Condenser
- K42 St. Albans Tap – Highgate Rebuild
- Sheffield – Lyndonville New Line
- Highgate Battery
- K41 Reconductor
- Stowe – Irasburg New Line
- East Fairfax – Irasburg New Line
- Sheffield Battery
- Georgia – Highgate New Line

Line Options Key Assumptions

- Assumed existing full line rebuild with larger conductor for K42 rebuild option and parallel K42 option (Georgia – Highgate new line)
- Assumed full access roads to be constructed on all new lines with the exception of K41 reconductor alternative due to limited structure work
- Assumed new bay construction at Georgia, Sheffield, Lyndonville, and Irasburg
- Assumed no new bay construction at Highgate, East Fairfax, and Stowe
- Minimum added for new bay construction, utilizing existing expansion space to minimize civil costs

Equipment Options Key Assumptions

- Highgate battery and SC, assume new yard to be located south of existing substation
- Sheffield battery, assume new yard to be constructed within a half mile radius of existing substation due to space limitation

Other Cost Considerations

- O&M fees on yearly maintenance and upkeep of new assets
- Major overhaul costs on new assets at the end of their life cycle
- Planned capital upgrade costs associated with alternatives
 - Project costs to be incurred regardless of SHEI alternative selection
 - Aids in decision making
 - Planned in service dates of alternatives

Estimating Techniques

- Used VELCO Project Estimating Process which aligns with ISO-NE Project Cost Estimating Guidelines
- Aligns contingency amount and accuracy levels with scope definition
- At this point, all VELCO alternatives have minimal scope definition

Next Steps

- VELCO to continue to participate in SHEI alternative study effort
- Form separate project team to review planned capital upgrades for K42 line
 - Evaluate asset condition of line
 - Evaluate Structure Refurbishment Options
 - Communicate to stakeholders, including SHEI team and ISO-NE
- Expect to complete review by end of 2018