



VERMONT BROADBAND UPDATE

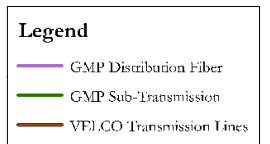
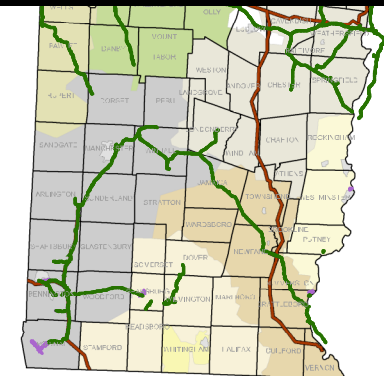
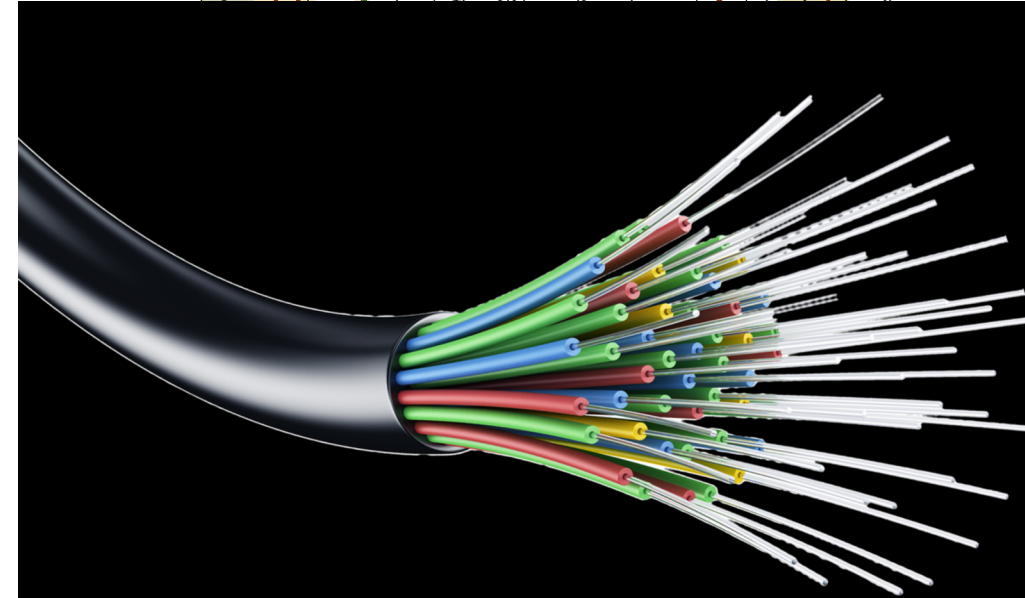
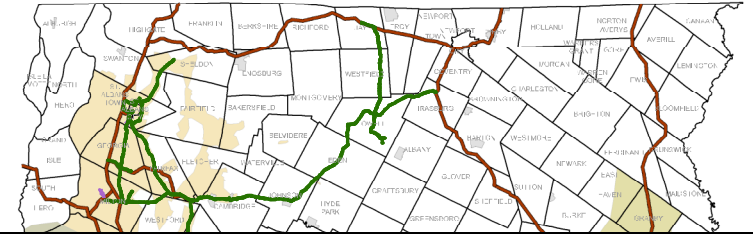
September 2021

Mike Burke (GMP)

Peter Rossi (VEC)

WHERE ARE WE NOW?

- ▶ GMP and VEC Broadband Deployment Riders Underway!
 - ▶ GMP has now had 9 applications under our new broadband tariff rider.
 - ▶ These seven applications will address 91 VT addresses in GMP territory currently with no broadband, a total of 661 poles that companies will attach to.
 - ▶ Flat, one-time \$2,000 per location incentive available for unserved locations; 3-yr program.
- ▶ Legislative actions & Stakeholder Conversations
 - ▶ H360 passed, new Vermont Community Broadband board includes VELCO's Dan Nelson, along with former GMP COO Brian Otley, Christine Halquist is the Director of VCB.
- ▶ Outlook – Abundance of Incoming Funding = New Challenges
 - ▶ Funding becoming less of an immediate issue, CUDs and new state board getting up and running may be limiting factor in the short term, along with technology conflicts (fiber deployment vs. fixed wireless/cable/Starlink etc.)
 - ▶ Overall, the willingness of rural communities to work with existing providers is likely another short-term pain point.
 - ▶ GMP continues to make clear that we are willing to help bridge gaps both in terms of expertise and relationships.



- ▶ 3-year pilot proposal
- ▶ \$2,000 make-ready incentive per unserved address
- ▶ Would apply against CAPITAL construction costs only, up to a cap and/or maximum actual costs
- ▶ VEC annual spending cap of \$1.0M for each of three years, GMP annual spending cap of \$3.0M for each of three years
- ▶ First-come, first-serve model for each address
- ▶ Logistics of administering cap still under advisement (how to allocate annually)
- ▶ Applicant must meet or exceed FCC standard (currently 25/3)
- ▶ Applicant must commit to construction within 12-month timeframe of make-ready completion
- ▶ CUD's could play verification role of unserved address achieving service

VEC and GMP Make-ready Incentive

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	Vermont	GMP	VEC
Total Unserved	20,980	6906	6,105
CARES Act	3,590	??	1,655
Anticipated Unserved eligible for proposed incentive	17,390	6906	4,450

	Poles	Miles	Cost of Make-ready Dollars	Dollars Given from Investment
GMP Make-ready in 2021-126 applications				
VEC Make-ready since January 1, 2021	461	12.9	OMAG \$15,738 ³ CAPX \$45,713 ⁴	Incentive = \$0 NESC violations = \$28,046

- ▶ ¹ Attachments, not necessarily pole replacements
- ▶ ² Estimated based on average span
- ▶ ³ A/R Billings include \$31,794
- ▶ ⁴ Includes capital expenditures/overheads

Communications Union District (CUD) consisting of 40+ towns & 4 counties – goal is to bring reliable, affordable high-speed internet options to NEK.

Current Plans

- ▶ Developing 5 year plan by July 2021, prioritizing with board & NRTC
- ▶ Started in Concord, 306 poles (GMP)
- ▶ Expect 500 miles of make-ready per year, starting in 2022 (not all VEC)
- ▶ Issued RFP for construction resources
- ▶ Expecting \$35-\$40M in grants, then borrow, then bond (pending fed \$\$\$)
- ▶ Administering/partnering with Lamoille CUD – another 2600 miles of fiber
- ▶ Fiber available through buying group

What they need from VEC

- ▶ Located head-end outside our substations (approved)
- ▶ Collaborate on make-ready work
- ▶ Planning & prioritization
- ▶ Shared contractors & construction
- ▶ Pole ownership from Consolidated
- ▶ Northlink: drop & access the fiber (assets will be transferred from state & Northern Enterprises to NEK CUD)
- ▶ Future – maintenance & storm response resources?
- ▶ Future – batteries as resilience for broadband system & utility use?

Fiber builder & operator, for broadband and utility. Generally Northeast, central offices in Massachusetts

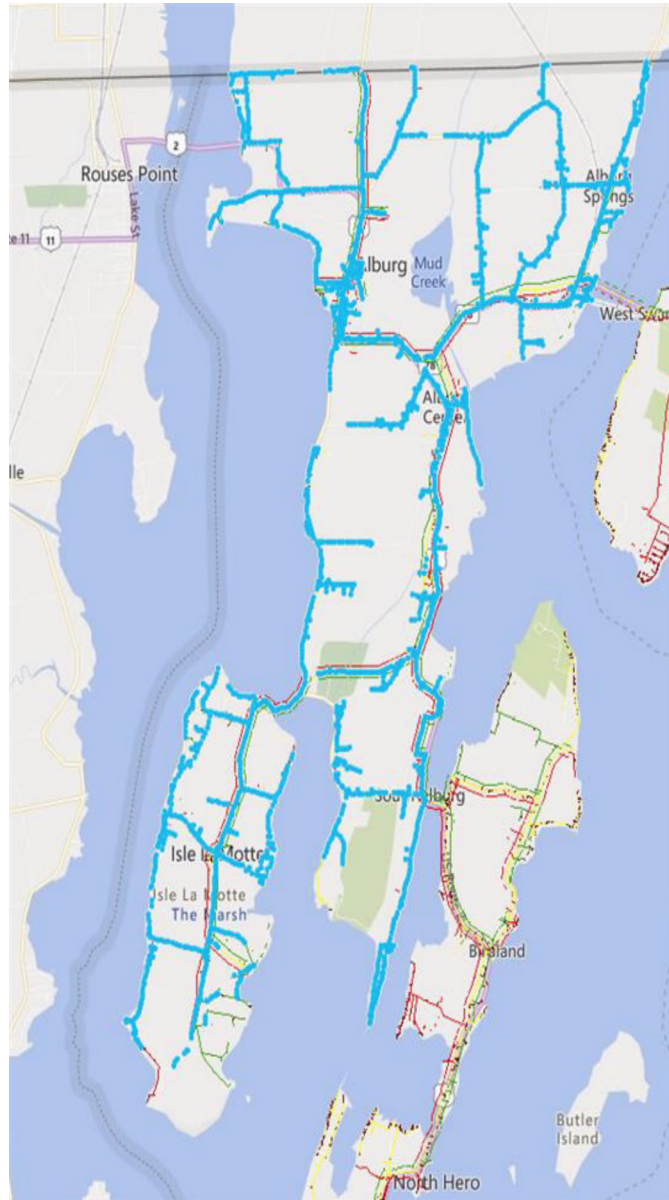
Current Plans

- ▶ Vote passed, now entering Letter of Intent to serve all of Alburgh
- ▶ Expect make-ready Aug/Sept
- ▶ Will likely begin build in spring 2022
- ▶ 80% funded by Matrix, 20% by town
- ▶ VEC make-ready program will reduce town bill in half (they will only need 10%, and will apply for grants)
- ▶ Expect to expand to Isle La Motte
- ▶ Conducting feasibility study for Northwest CUD

What they need from VEC

- ▶ Collaborate on make-ready work
- ▶ 2900 poles, Alburgh – 1750 Isle La Motte
- ▶ Speedy make-ready work
- ▶ Owning more poles if they expand to other towns in Northwest CUD

“We very much look forward to working and collaborating on broadband projects. The support each community may be eligible for via the VEC Broadband Development Program will be a major contributor to accelerate the rural broadband expansion in Vermont. We are especially proud to be part of this unique endeavor with the Town of Alburgh. It is the culmination of what we are all about as a company, empowering communities to ensure broadband access to all.”



Proposed Map

- ▶ Alburgh expected build in 2022
- ▶ Hoping Isle La Motte will follow 6-12 months after
- ▶ Reaching all addresses in Alburgh except underground

Local broadband fiber company, based in Jericho/Underhill area and slowly expanding up western side of VT, focusing on underserved and unserved areas.

Current Plans

- ▶ Expanding in Fairfax and Fairfield
- ▶ Next will aim for Waterville/ Belvidere
- ▶ Expect to continue to expand toward Canadian border
- ▶ Pandemic accelerated expansion plans
- ▶ Challenged by fiber acquisition and field resources (all contract)
- ▶ Have submitted most of the make-ready work VEC has completed in past year
- ▶ Successfully advocated for small broadband providers (not just CUD's) to be included in state broadband bill

What they need from VEC

- ▶ Collaborate on make-ready work
- ▶ Owning all the poles – they struggle greatly with Consolidated make-ready response (this is their most pressing challenge)
- ▶ They prefer to own any backbone fiber themselves
- ▶ Pleased with VEC make-ready tariff. Have submitted one application with 3 eligible addresses, but no make-ready was required so no offset (even better!)

Fiber builder & operator originally in Craftsbury but expanding throughout NEK, with partners & grants (Michael Birnbaum)

Current Plans

- ▶ CARES grants for expansion in Hardwick, Greensboro, Craftsbury, Albany & Irasburg
- ▶ Awarded RDOF grants, primarily Essex & Orleans counties
- ▶ Partnering with NEK CUD, WEC, & EC Fiber on broadband buildout
- ▶ Potential operating (ISP) partner for both entities

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Currently primary internet provider in our area, through DSL. Co-owner of 40% of our poles

Current Plans

- Capital partner Searchlight injected \$550M for fiber in Maine, NH & VT over next six years
- Fiber to over 200,000 VT locations
- Primarily where they currently have DSL, then adding RDOF commitments
- 2021 VT: Montpelier area + maybe Barton - otherwise most VEC territory buildout will be in 2023 and beyond
- Would like to partner with CUD's or towns outside their current commitments, but requires \$\$

What they need from VEC

- No make-ready needed for almost all buildout since they will overlash their current wires
- Have been open to potential for acquiring their poles, but no current specific offer on the table
- Sensitive to competitive information about timing & rollout plans, also to deference or subsidies to others (eg broadband bill leaves them out)

1. Connect all DER generation greater than or equal to 150 kW to meet requirements from ISO-NE. The details of this recommendation include:
2. Connect all substations with DER generation at a minimum of 144 strands.
 - For VEC, this is ~55 miles of fiber to 12 substations for increased capacity. We currently have fiber to these substations, but less strands than the new VELCO standard.
 - For GMP, XXXX

VEC and GMP DER Type to be connected

>=150kW			
DU	Sum of Length (mi)	Sum of Total kW	Estimated Fiber Cost
⊗ BED	8	42792	\$ 418,000
⊗ GMP	489	311913	\$ 24,443,000
⊗ VEC	51	21100	\$ 2,543,500
⊗ VPPSA	50	13221	\$ 2,502,000
⊗ WEC	18	4820	\$ 913,500
Grand Total	616	393847	\$ 30,820,000

Type	Count
Solar	18
Bio	4
Wind	0
Hydro	3
Peaker	0
Storage	1
Other	0

- ▶ Based on strong advocacy by all entities including VEC and GMP, all fiber will be 144 strands (72 for VELCO, 12-24 for DUs, 48-60 for Broadband).
- ▶ This allows broadband support, in addition to reliability support through this fiber project.
- ▶ To qualify the additional strands for ISO-NE funding, VELCO must follow a "claw-back" provision that ensures all installed strands be available for reliability, if necessary. A backup system for the fiber, in essence, but can be used in the meantime for DU operations and broadband.
- ▶ Cost of project is funded 80% from ISO-NE and 20% from Vermont distribution utilities.
- ▶ Preliminary approval has been received from ISO-NE based on the current high-level project description. More specific approval to follow.
- ▶ VELCO can keep 30% of revenue from broadband leases.
- ▶ Fiber buildout to begin this summer and be complete in 2-3 years.

Items for Telecom Sub-committee still needs to complete:

- ▶ Contracts and leasing arrangements between broadband providers and either the DU or VELCO.
 - ▶ We expect broadband providers will lease directly with VELCO for simplicity of billing and to ensure ISO-NE “claw-back” requirements are met.
 - ▶ VEC is supporting broadband providers by potentially allowing equipment in or near substations to take advantage of fiber available.
 - ▶ Costs to DU for dedicated fiber
 - ▶ Proposed \$4.50-\$5.75 per strand per mile for DU’s and \$6.25-\$8.00 per strand per mile for Broadband
 - ▶ Attachment fees set by PUC for 1.25 feet @ \$11.19
 - ▶ VELCO attachment fees and fiber swap deals.
- ▶ Details of project areas and rollout for make-ready applications and work.
- ▶ Evaluate and recommend coordination, especially with regards to data exchange, between the VELCO and the Distribution utilities to enhance Engineering modeling as it relates to optimal grid reliability and operations (e.g., generation resources).

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- ▶ NorthWest CUD
 - ▶ Working on a feasibility study
- ▶ Broadband Providers (not all fiber)
 - ▶ Franklin Telephone
 - ▶ Comcast
 - ▶ Charter Communications
 - ▶ FiberCast
- ▶ RDOF
- ▶ CARES ACT
- ▶ Other State and Federal Funding