

BURLINGTON
BOARD OF ELECTRIC COMMISSIONERS
585 Pine Street
Burlington, Vermont 05401

GABRIELLE STEBBINS, CHAIR
SCOTT MOODY, VICE CHAIR
JIM CHAGNON
ROBERT HERENDEEN
BETHANY WHITAKER

To be held at Burlington Electric Department (and)
Via Microsoft Teams
[+1 802-489-6254](tel:+18024896254)
Conference ID: 361 667 284#

AGENDA
Regular Meeting of the Board of Electric Commissioners
Wednesday, July 13, 2022- 5:30 p.m.

- | | |
|---|----------------|
| 1. Election of Officers | 5:30 (5 min.) |
| 2. Agenda | 5:35 (5 min.) |
| 3. Minutes of the June 8, 2022 Meeting | 5:40 (5 min) |
| 4. Public Forum | 5:45 (5 min.) |
| 5. Commissioners' Corner (Discussion) | 5:50 (5 min.) |
| 6. GM Update (Oral Update)
Financials: May FY22 | 5:55 (15min.) |
| 7. 2022-23 Strategic Direction (Discussion & Vote): D. Springer | 6:10 (10 min.) |
| 8. Weatherization Repayment Assistance Program (WRAP) filing
(Discussion & Vote: J. Gibbons) | 6:20 (10 min.) |
| 9. Airport ARC Wind Turbine Contract (Discussion & Vote): J. Gibbons | 6:30 (10 min.) |
| 10. IT Forward Project Update (Discussion & Expected Executive Session):
E. Stebbins-Wheelock & E. Ferland | 6:40(15 min.) |
| 11. Cybersecurity Update (Discussion & Expected Executive Session)
E. Stebbins-Wheelock & E. Ferland | 6:50 (15 min.) |
| 12. Commissioners' Check-In | 7:05 (5 min.) |

Attest:



Laurie Lemieux, Board Clerk

Note: Members of the public may speak during the Public Forum, or when recognized by the Chair during consideration of a specific agenda item.

If anyone from the public wishes to speak during the public forum portion of the Commission Meeting and/or wishes to be present for the Meeting of the Board of Electric Commission via Microsoft Teams, please email llemieux@burlingtonelectric.com to receive a link to the meeting, or call (802) 489-6254, Conference ID: 361 667 284#

TABLE OF CONTENTS
(for 07/13/22 meeting)

***** FYI *****

- Minutes of the June 8, 2021 Meeting
- June Monthly Report
- Dashboard
- FY22 May Financials
- 2022–23 Strategic Direction
- Weatherization Repayment Assistance Program
- Airport Arc Wind Turbine Contract

Note: Members of the public may speak during the Public Forum, or when recognized by the Chair during consideration of a specific agenda item.



MEMORANDUM

To: Burlington Board of Electric Commissioners
From: Darren Springer, General Manager
Date: July 8, 2022
Subject: **June 2022 Highlights of Department Activities**

General Manager

- **Charter Change** – BED and DPI are working on creating a report for the City Council for July 18th, that will outline some initial recommendations and thoughts regarding the Charter Change authority, with a focus on new construction, major renovations, city buildings, and large existing commercial buildings, per the Council’s Resolution. BED has worked with Building Electrification Institute to study examples of policy in other cities and has also begun some initial stakeholder outreach with UVM and UVMMC, with more to follow.
- **Street Lighting** – The BED team has received feedback from a number of residents on Scarff Avenue about the new streetlights. Most, but not all, of the feedback has expressed concern about the number of poles and the brightness of the fixtures. Our Customer Care and Engineering teams have partnered to be in close communication with our Scarff Avenue customers to ensure them that we have heard them and are working on a solution. Thereafter, we mailed a letter dated July 5 to those customers sharing the news that recent changes to the International Engineering Society of North America (IES) lighting level recommendations would allow us to reduce the lighting level for the Scarff Avenue sidewalks. In redesigning the project, we determined that we will be able to reduce the total number of poles from 23 to 14, while still maintaining appropriate safety standards. We communicated this news in the letter.
- **NZE Festival and Community Events** – The BED team has been busy with community events, including two customer nights at the Ballpark with the Lake Monsters and VGS, a Summervale sponsorship on July 14th, a table at the ONE Farmer’s Market, and planning for our September NZE Festival. We’ll begin advertising for the Festival in August.
- **Budget/Rates/IBEW Contract** – The City Council has approved the City’s FY23 budget, including BED’s budget, and we have continued work (discussed further below) to prepare our FY23 rate case and engage with the PUC on our updated energy assistance program. In addition BED/The City have reached agreement with IBEW on a new four-year contract, and the contract was ratified by IBEW members and by the City Council in June. A signing event with the Mayor and Jeffrey Wimette (IBEW Business Manager) will take place at BED on July 27th at 10:30am.
- **District Energy** – All partners have signed a letter agreement guiding the development work of the DES for the remainder of 2022, including UVM, UVMMC, The Intervale Center, the City, BED, VGS, and Ever-Green. We are working as well on the preparation of files necessary to receive the funding from the Department of Energy that Senator Leahy secured and engaging on the additional

engineering/design work needed to get updated construction pricing later this year.

Center for Innovation - Emily Stebbins-Wheelock

- Overseeing 2022 rate case development/implementation.
- Launched Business Systems Work Group for governance and planning related to the systems and processes that support business operations.
- Concluded mentorship of DeltaClimeVT 2022 cohort.
- Continued sponsorship of IT Forward implementations.

Finance & Accounting

- FY 2023 budget approved by the City Council.
- Finalized 2022 rate case cost of service model, including known & measurable changes and model cash flows and debt coverage ratios.
- Received KPMG approval of REC and Tier 3 accounting changes; continued work with Policy & Planning to implement in FY22.
- Continued work on assessing new GASB Standard 87-Leases for implementation in FY22.
- Held FY 2022 audit kick off meeting with KPMG. KPMG will begin on testing on August 22, 2022.

Information Services

- Completed DHS/CISA voluntary cybersecurity assessment.
- Upgraded our SPAM filtering and anti-virus/anti-malware software.
- Implemented phishing testing; increased frequency of user training.
- Testing disaster recovery for FIS/CIS environment.
- Continued progress on IT Forward projects.
- Continued work on SCADA firewall replacement and VELCO ICCP upgrade projects.

Policy & Planning

- Filed 3.95% rate increase with PUC to take effect as temporary surcharge on August 1, 2022.
- Closed out 2021 REC position.
- Filed Energy Assistance Program with PUC for effect August 1, 2022.
- Filed reply comments in Act 151 fund re-allocation request.
- UNH Sustainability Fellowship Intern began work on public EV charging project.
- Attended DPS workshop on interconnections.
- Final DeltaClime VT mentoring sessions and pilot awards.
- State of VT Multifamily EVSE grant contract approved by City Council and Attorney; seeking final clarifications.
- Meetings with DPS on revisions to BED's net metering tariff.
- ARC pilot project contracting (approval of second contract on July BEC agenda).
- Solar Test Center permit revision filing.
- Rate Design Initiative (RDI) grant contract executed.
- Finished Global Leadership Program.
- Weatherization Repayment Assistance Program (WRAP) filings review.
- Multifamily EV charger program soft launch.
- Defeat the Peak preparation work.

- Performed load shape analysis for IRP forecast.
- Updated BED’s energy and renewability web pages for 2021.

Sustainability & Workforce Development

- In conjunction with Adam Rabin, Communications & Technology Specialist, hosted NZE Podcast episode with Peggy O’Neil Vivanco, Vermont Clean Cities Coordinator, on residential and commercial electric lawn equipment. Recorded next episode with Debra Sachs, NZE Vermont, on the Walk to Shop Program.
- Facilitated monthly project meeting of the Vermont Low Income Trust for Electricity (VLITE) funded effort to expand EV access for low-income residents through car sharing and enhanced charging infrastructure.
- To support local planning initiatives, invited to speak with Portsmouth, NH’s Sustainability Committee on Burlington’s Climate Action Plan and NZE Strategy. Spoke with Columbus, MO’s Sustainability Office on Burlington’s rental weatherization ordinance.
- Facilitated Burlington 2030 District webinar featuring Darren Springer, Chris Burns, and DPI Director William Ward on the new rental weatherization policy and renewable heating ordinance for new construction.
- Joined 2030 District’s Executive Team meeting, monthly steering committee meeting, and participated in 2030 District member gathering.
- Orchestrated all-employees “Coffee and Learn” on Distribution 101 for the non-engineer.
- Attended EAN Summit Planning meeting in preparation for September event; continued work on October REV Conference planning.
- Continued participation in Burlington High School and Burlington Technical Center Advisory Group to provide feedback to the architecture and design teams on important sustainability considerations.
- Presented reflections on Burlington’s building electrification efforts on monthly BEI/USDN “Gas Transition and Building Electrification” working group call. Joined by co-chairs from Berkeley, CA, and Portland, ME; met with BEI team and reviewed policy findings for consideration in advancement of renewable heating ordinance.
- Corresponded with several various NZE Festival stakeholders, including City Market, Local Motion, and Vermont Energy Education Program (VEEP).
- Attended bi-annual New England Municipal Sustainability Network (NEMSN) meeting in Portsmouth, NH. Joined strategic session on maximizing the relationship between NEMSN and the Urban Sustainability Directors Network to advance climate change mitigation and resilience.

Center for Safety and Risk Management – Paul Alexander

Safety

- Completed bid specs for steel beam installation at the gas turbine.
- Conducted meeting with Finance on BED PPE Clothing & Boot Program.
- Conducted safety briefing with GM.

Environmental

- Completed the 2022 secondary outage.

- Completed 5-year Draft Air Pollution Control Permit for the Gas Turbine.
- Completed the cooling tower fill upgrade project.
- Responded to two field spills.

Risk Management

- New Claims Investigations (5 total: 2 power related, 3 other).
- Create 2021 PMR graphs for Customer Care
- Attend street lighting meeting with BEC and CC commissioners.
- Sent out employee Garage Use policy reminder and sign forms.
- Finalize and signoff on BED's response to ISO-NE request re: CIP-012.
- Create release for NZE Festival (Vendor and Performers) and BTU #2.

Purchasing/General Services

- Attended monthly meeting with the electric bucket truck vendor.
- Attended monthly meeting with the state on our grant for electric bucket truck.
- Worked on FR clothing cards and agreement with Unifirst for new FY.

Center for Operations & Reliability – Munir Kasti

Engineering & Operations

- Continued training at the Gas Turbine.
- Removed graffiti from BED equipment at various locations throughout the city.
- Performed breaker maintenance at substations.
- Commissioned new aerial capacitor bank 654CB on South Willard Street.
- Worked with consultant on replacement of SCADA firewalls.
- Continued troubleshooting alarms and worked with SCADA vendor to address open issues.
- Issued design and work order for transfer of BED's facilities to new pole P3144 on North Avenue, which was replaced by Consolidated Communications.
- Awarded RFP's for civil construction work for the following projects:
 - Underground rebuild at Edgemoor Drive
 - Underground rebuild at Lyman Avenue
 - Construction of new duct bank along College Street between South Winooski Avenue and City Hall Park
- Developed project schedule and issued project assignments for FY23 capital projects.
- Continued analysis of projected increased system peak loading due to Net Zero Energy.

Grid Services

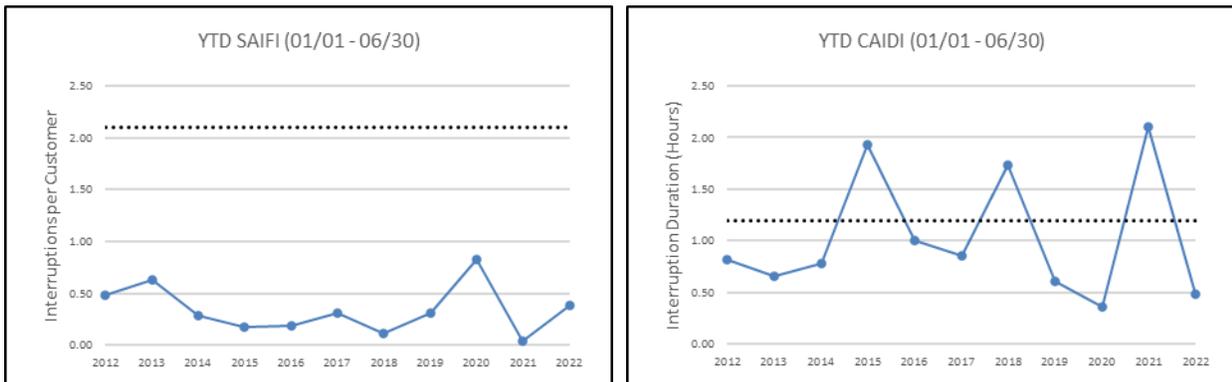
- Completed Buell Street reconductor project and scheduled outages to transfer services to new poles.
- Completed Scarff Avenue streetlighting and underground residential distribution (URD) project and scheduled outages to transfer customers to new underground service.
 - One customer complaint was received about current outage notification process for these types of projects. After a discussion with the customer the issue was resolved.
 - Two customer complaints and two notifications of positive feedback have been received regarding the new LED streetlights.

- Completed final transformer replacement for a project at UVM’s Larner College of Medicine.
- A second service for the Rail Yard has been connected.
- Completed repairs for 12 utility hole covers throughout Burlington.
- Final poles have been removed for the Pine Street Neutral project.
- Installation of new poles on Ethan Allen Parkway, Farrington Parkway, Heineberg Road and Caroline Street.
- Ongoing work on roundabout lighting will continue into the summer.
- Ongoing repair work on the Battery Street and Pearl Street utility hole.
- Completed new transformer installation on Union Street and scheduled an outage as part of the service upgrade.
- Transferred service on a South Willard Street pole, north of the roundabout project.
- Began the University Place lighting project by installing the first new pole and anchor.
- Scheduled an outage for Saint Paul’s Cathedral to bypass the old switch at Battery Street and Pearl Street. The switch was removed from the utility hole with a new one scheduled to arrive in August.
- Line and Metering crews responded to 20 trouble calls, completed 12 scheduled services, and repaired 22 streetlights.
- Met with several leaders of the Jewish Community to answer questions about the Eruv.
- One application has been received for the Metering Technician job posting.
- The Lineworker A posting is still active; no applications have been received yet.

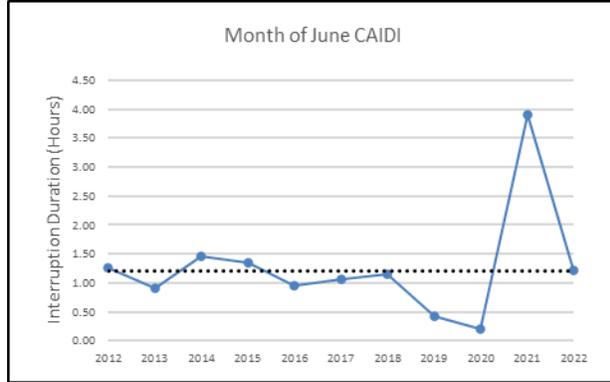
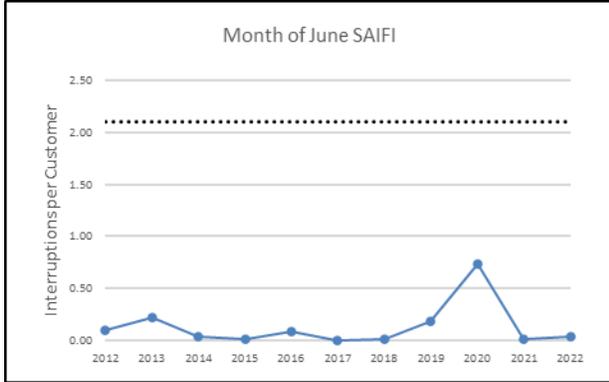
SAIFI & CAIDI Outage Metrics:

BED’s distribution system experienced 30 outages in June 2022 (5 unscheduled and 25 scheduled). BED’s SAIFI for the Month of June was 0.04 interruptions per customer and CAIDI was 1.23 hours per interruption. BED’s YTD SAIFI is 0.39 interruptions per customer and YTD CAIDI is 0.48 hours per interruption. The reason for the higher CAIDI in the month of June was primarily due to the work on Scarff Avenue where each customer was transferred from the back lot overhead secondary to the new underground system.

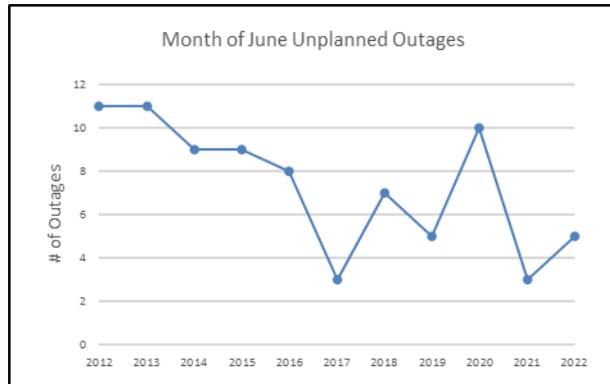
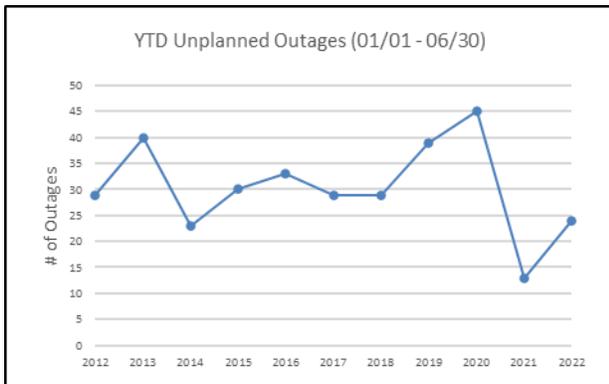
The following figure shows BED’s historical YTD SAIFI and CAIDI:



The following figure shows BED’s historical June SAIFI and CAIDI:



The following figure shows BED’s historical Unplanned Outages:



GENERATION

McNeil Generating Station

Month Generation:	13093 MWh
YTD Generation:	112713 MWh
Month Capacity Factor:	36.37 %
Month Availability:	39.34 %
Hours of Operation:	336 hrs.

There was a total of 22,712 MWH hours of reduction due to turbine overhaul and grate issues. Turbine overhaul concluded June 17, 2022. Projects completed this month included cooling tower fill, drift eliminator replacement, cooling tower fan replacement, rebuild of East grates, minor turbine overhaul, and other necessary repairs. McNeil managed to complete its Summer Capacity and Capability audit on June 25, 2022 yielding a 52.17 NMW which continues our summer max claim as 52 NMW.

Winooski One Hydroelectric Station

Monthly Generation:	1309.12 MWH (86.98% of average)
YTD Generation:	16095.98 MWH (93.52% of average)
Month Capacity Factor:	55.32 %
Annual Capacity Factor:	50.07 %
Month Availability:	98%

Projects completed included rebuild of the rails and pads for the trash rake, crane inspections, semi-annual PM for wicket gates, and miscellaneous maintenance. Experienced low flows in June but ran steady.

Burlington Gas Turbine

Month Generation:	77.315 MWh
YTD Generation:	300.499 MWh
Month Capacity Factor:	0.559%
Month Availability:	100.000%
Hours of Operation Unit A:	0.0
Hours of Operation Unit B:	9.9

There were three operations of the asset this month, all were successful. One operation was a BED-requested audit, one was an economic dispatch by ISO NE, and the last was a self-scheduled operation to perform the annual required Summer Seasonal Claimed Capability (SCC) audit where training also occurred simultaneously. The asset did have a trip just prior to initiating a shutdown command after the completion of the Summer SCC audit, however no lost time occurred, and the asset was immediately available for service thereafter. The asset is fully functional and in service at the end of the month with no reductions in place.

Solar (Airport 499 kW)

Month Generation:	83.9 MWh (+1% from previous year)
YTD Generation:	320 MWh
Month Capacity Factor:	23%
Month Availability:	100%

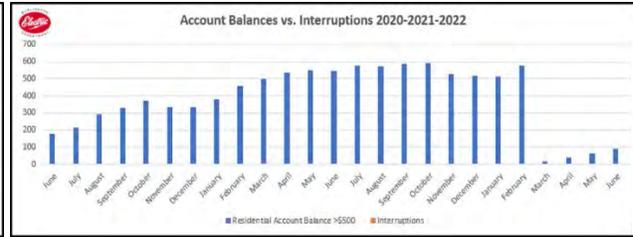
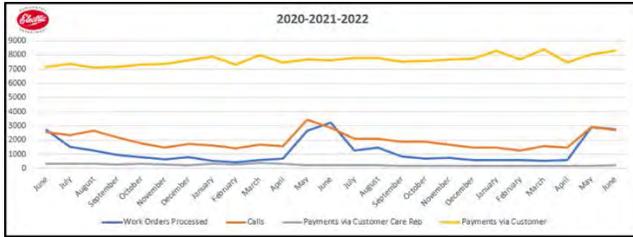
Solar (Pine Street 107 kW)

Month Generation:	15.8 MWh (0% from previous year)
YTD Generation:	56.1 MWh
Month Capacity Factor:	21%
Month Availability:	100%

Center for Customer Care & Energy Services – Mike Kanarick

Customer Care

- **Call Answer Time (75% in 20 seconds):** June 2022 77.5%, May 71.1%, April 85.0%, March 85.8%, February 85.2%, January 83.9%. June 2021 69.3%, May 65.8%, April 91.0%, March 89.1%, February 93.1%, January 86.7%. Significant improvement of 8.2% over same time last year, during one of busiest months of the year. **Monthly # calls down slightly from May, but still nearly double April # calls (from 1,464 to 2,712) and 2,788 work orders 4.5x the April # (610) and almost as high as the May # (2,909). Web requests** for termination and new service 3x the May #.
- **June 2022 Stats:** please see dashboard for additional metrics categories.



**Please note that our account balances greater than \$500 was substantially reduced with the application of more than \$1M in ARPA funds in early April.*

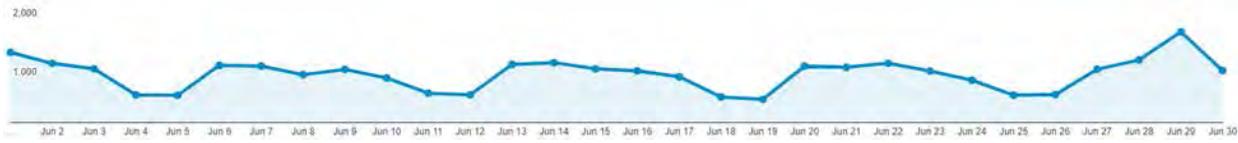


Communications and Marketing

- Energy Assistance Program: new monthly bill credit program to offset by 12.5% the rate increases (3.95% proposed this year and 7.5% last year) began July 1, 2022 – boost to former Temporary Energy Assistance Program of 7.5%. Last year’s participants in Temporary Energy Assistance Program of 7.5% automatically enrolled in new program. So far, 114 (up from 101, 99, 90, 79, 75, 69, and 58) customers have applied with 80 approved, 33 pending verification, and 1 found ineligible. Customers can learn about eligibility requirements and apply by visiting burlingtonelectric.com/rates.
- Vermont Emergency Rental Assistance Program (VERAP - erap.vsha.org): launched by State in April 2021 “to help alleviate income pressure on tenants and landlords and restore stability to the rental community.” VERAP helps tenant households with paying rent, as well as paying utility and home energy costs. BED has approved 870 of 1,202 (up from 810 of 1,099, 765 of 1,037 April, 709 of 972 March, 591 of 866 February, 560 of 818 January, 478 of 696 December, 411 of 639 November, 312 of 561 October, and 280 of 461 September) program applicants for a total of \$706k (up from \$660k, \$620k, \$568k, \$474k, \$434k January, \$353k December, \$323k November), of which BED has received \$687k (up from \$643k, \$599k, \$533k, \$436k, \$388k January, \$263k December, \$212k November).
- Vermont Homeowner’s Assistance Program (VHAP): launched by the State of Vermont through the Vermont Housing Finance Agency (VHFA) in January 2022 to help prevent home foreclosure and displacement with assistance for overdue mortgage payments, homeowners association fees, property taxes, and utilities. So far, BED has certified 34, (up from 27, 13, 12) applicants and received \$10k in payments.
- Free Net Zero Energy Yard Signs: BED continues to encourage our community members to help spread the word about the impactful steps they’ve taken to help Burlington make progress along the path to becoming a Net Zero Energy city by 2030 by planting a sign in their yard and having conversations with as many members of our community as possible about what they have done to reduce their carbon footprint. Team has delivered approximately 50 signs so far. Order signs at burlingtonelectric.com/yardsign.

- Customer Satisfaction Survey: BED’s triennial Customer Satisfaction Survey (that was postponed by one year until FY21 with PUC approval due to the pandemic) is complete and a presentation for the BEC being put together for presentation at the September meeting.
- Net Zero Energy Podcast: we hope you’ve had a chance to take a listen to BED’s new Net Zero Energy Podcast at www.burlingtonelectric.com/podcast, including our latest episodes about electric lawn equipment and with Burlington High School students discussing their semester in the Burlington City and Lake Program.
- E-billing Promo Partnership with VGS and Vermont Lake Monsters: the BED-VGS-Lake Monsters partnership is back. E-billing saves \$18 per year per customer, with customers receiving two tickets and \$10 in Monster Money to spend at the ballpark. BED enjoyed seeing our customers at the ballpark on June 16 and July 6.
- North Avenue News: our July column includes information about BED and State of Vermont financial energy assistance programs, opportunities for rebates, and guidance on how to get a NZE yard sign. Our ad promotes the BED and State of Vermont financial energy assistance programs.
- June 2022 Website and Facebook Highlights
 - Overall site-wide pageviews for June 2022 = 24,859
 - May = 29,609
 - April = 28,428
 - March = 23,967
 - February = 17,126
 - January = 19,000
 - December = 18,374
 - November = 19,898
 - October = 20,598
 - September = 21,327
 - August = 22,962
 - July = 23,727
 - June = 25,159
 - May = 28,428
 - April = 22,745
 - March = 21,463
 - February = 18,773
 - Unique homepage pageviews for June 2022 = 7,860
 - May = 8,211
 - April = 7,499
 - March = 7,282
 - February = 5,831
 - January = 6,380
 - December = 6,346
 - November = 6,379
 - October = 6,857
 - September = 6,905
 - August = 8,464
 - July = 7,931
 - June = 7,484
 - May = 7,499
 - April = 5,404
 - March = 5,775
 - February = 5,165

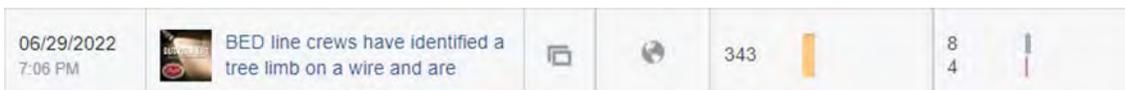
- Full site traffic for June 2022



- Visitors by website page – please note that some of the columns indicate n/a as the page-specific URLs changed when we launched our new website. We will continue to track this information, which will become more meaningful each month.

page title	June 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022	Dec 2021	Nov 2021	Oct 2021	Sep 2021	Aug 2021	July 2021	June 2021
Burlington Electric Department	9206	9740	7384	8777	6657	7237	7353	7246	8186	7845	8464	9164	9085
My Bill	3207	2811	2519	2758	2585	3122	2670	2737	2825	2943	2846	3033	3295
Waste Wood Yard	1386	1928	1999	653	237	527	804	1649	1069	1045	1082	1212	1160
Report A Problem	188	233	189	516	70	95	385	93	235	119	79	153	135
Stop or Start Service	951	2184	464	323	202	248	279	306	298	454	867	803	1079
E-billing	524	287	234	266	266	340	345	274	276	376	345	522	454
Contact Us	654	784	489	555	360	445	439	448	460	577	642	638	731
McNeil Generating Station	482	648	726	557	255	374	379	644	443	347	339	447	429
Heat Pumps	490	638	512	559	331	382	264	394	477	406	496	567	369
Rebates	754	920	636	917	488	450	377	501	537	566	571	621	795
Rebate Center	934	1026	688	732	508	549	419	499	546	530	667	679	319
Green Stimulus	29	50	53	121	49	57	27	49	91	106	113	138	233
Stop or Start Service	951	2184	464	323	202	248	279	306	298	454	867	803	1079
Leadership Team	174	185	284	269	237	265	196	222	206	243	276	228	240
Rates & Fees	208	254	220	246	180	221	203	166	214	178	132	143	247
Usage Tracker Registration	128	113	77	145	120	156	142	127	114	94	154	177	223
RFP	335	268	211	534	597	362	152	270	243	452	497	455	158
Residential Ways to Save	199	249	171	155	146	147	157	164	156	172	191	172	220
Electric Vehicles	324	273	274	356	296	222	244	296	289	272	265	245	332
E-Bikes	202	260	167	206	89	78	76	78	161	168	265	207	192
Net Zero Energy News	32	24	57	27	30	33	26	32	67	204	129	115	178
Electric Vehicles	324	273	274	356	296	222	244	296	289	272	265	245	332
COVID-19 Updates	n/a	n/a	10	11	11	17	16	22	79	153	166	397	540
Our Energy Portfolio	55	80	79	124	54	58	48	88	104	96	59	42	n/a
Lawn Care	259	472	121	149	31	n/a	n/a						
Electric Lawn Mowers & Leaf Blowers	n/a	n/a	n/a	n/a	23	49	39	94	117	150	133	184	229
RFP Detail	93	151	110	422	413	214	n/a	94	49	258	334	185	n/a
Defeat The Peak	15	25	9	16	11	8	12	12	n/a	11	137	22	155
Commercial Ways to Save	48	43	42	63	45	30	43	37	41	98	55	39	62

- Top-performing Facebook post – June 29 outage



Blue: clicks / Red: comments, shares

Energy Services

UVM

- UVM Terrill Hall / Lab Hood Control Upgrade - The purpose of this project is to upgrade 11 existing lab hoods by replacing air flow hardware and controls with the latest technology. The old constant volume two-position control strategy is being converted to variable control. Lab air-change rates are being adjusted to the latest standard (reduced) and hood face velocity is being reduced from 100 to 90 FPM. BED made a site visit to Terrill this month to meet with the project manager and to get more details about the project. This will allow us to create an energy analysis model to predict savings and a rebate for the project. More information is due soon from UVM.
- UVM / Harris-Millis Lighting Retro-fit – BED completed a site visit this month to confirm the completion of the moderately sized lighting project. Approximately 50 existing fixtures were upgraded from fluorescent technology to LED. Reusing the existing fixtures reduces costs both in

materials and installation labor.

UVMMC

- UVMMC Secondary Chilled Water Balancing – The Miller Building addition, finished several years ago, created a significant new load on the central chiller plant. To optimize chiller efficiency, the chiller secondary loop needed to be re-balanced so an optimal differential pressure can be maintained. This project was initiated in late 2019, but the Covid lock-down created a lengthy delay in implementation. The project is just now being re-initiated, with two coordination meetings being held this month. The balancing process is nearing full completion. BED is developing a strategy to confirm energy savings using available historical data. It may be necessary to set up a simulation if the pre-project conditions and to obtain DDC trending data for analysis, to complete the savings calculations.

Other Services

- Weatherization coordination with VGS - VGS requested electrical account usage histories (with customer permission) for 5 SF and 6 MF buildings (representing 12 living units) this month for the purpose of weatherization audit preparation and building energy use analysis. This brings the total TTD (2021-2022) requests to 133 SF and 103 MF buildings (representing 3337 living units). The increase in multifamily building interest in the VGS weatherization program is being driven by the Burlington minimum energy efficiency rental housing ordinance.
- Eight homes are now enrolled in the BTV NZE Home Pilot Program with VGS. Each owner will receive a comprehensive NZ roadmap that is customized for their home and budget.
- At the request of VGS, BED developed a one-page summary of BED residential rebates. This will be printed and left with joint BED/VGS customers at the time of VGS home energy audits. This will also be distributed at venues such as the Burlington Farmer's Market and other in person events.
- North Avenue Alliance Church / HVAC Retro-fit – This church was paying excessive electrical costs due to old equipment and an over-sized chiller reaching end of life. Engineering analysis recommended the following: new modulating air-cooled chiller, variable speed drives on the main AHU, re-zoning of some of the spaces to allow system optimization and replacement of the DDC system, including improved sequences of operation. The project has been in progress for some time and was completed early this month. A final BED site visit is pending so that the incentive process can be completed.
- City Market / Perishable Cooler Renovation – A long-planned major renovation was completed this month on the dairy cooler for this downtown grocery store. It provides for the expansion of the existing cooler up to the retail cases, adding doors to the retail cases, and adding two new efficient evaporator assemblies in the walk-in. Enclosing the open cases is a large energy saver, and expanding the cooler allows the stocking of the cases from behind rather than interfering with the retail spaces at the front during the stocking process. The store is quite happy with the results. BED will complete a walk-through early next month so that the rebate can be paid.
- Citizen Cider – 7 Kilburn St. / New Air Compressor – A new 35 HP air compressor, with refrigerated dryer, has been installed at the Pine St. facility of Citizen Cider. A BED site visit was completed this month.
- Claire Point Apartments / Garage Ventilation Upgrade – BED received a request for a rebate estimate to upgrade controls at two parking garages in this multi-family complex. The effort is to

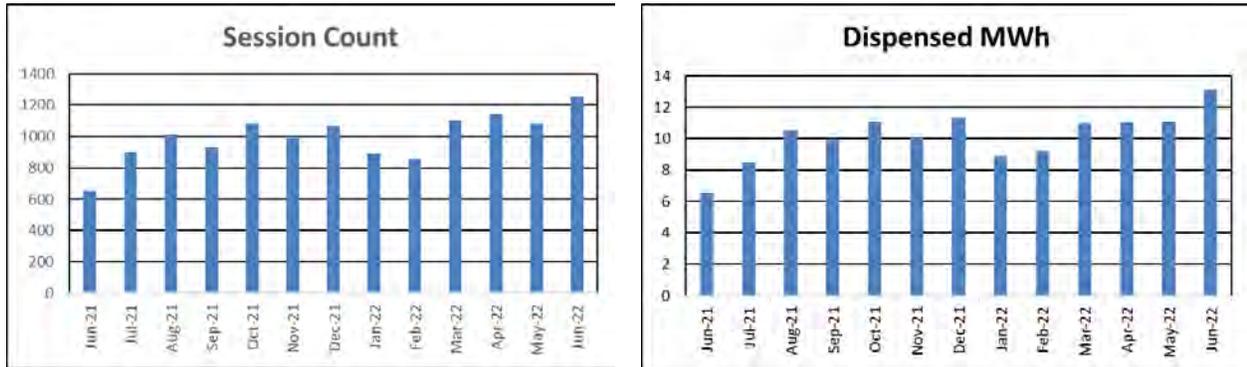
convert constant 24/7 fan ventilation in the spaces to variable speed fan operation. CO sensors will be used to increase ventilation fan speed from minimum, as needed, to safely vent the space while vehicles are in operation. BED provided rebate estimates this month. The owners are expecting to upgrade at least one of their garage systems in this way. This may not occur for several months due to delivery delays in the instrumentation that is required.

- Hickok & Boardman / Major HVAC Retro-fit – This seven-floor office building on Shelburne St. underwent a major HVAC upgrade and the project was completed about a year ago. The energy savings were estimated using a pre-project vs. post-project energy use analysis. There was limited post-project usage data at the time. BED is re-doing the energy savings analysis now to better confirm the energy savings. A preliminary look indicates the building is performing even better than estimated. BED is working with the building owner to further optimize operation.
- 100 Bank St. Office Building / 6th Floor Fit-up and DDC Upgrade – This major office building in downtown Burlington has recently been undergoing a series of HVAC upgrades to improve the ventilation and cooling systems. With a new tenant moving in on the 6th floor, another opportunity has arisen to upgrade another portion of the building’s DDC system. There are also several comfort issues that are in the process of being resolved. BED is working with the owner to develop a scope of work and a financial plan to see if it is feasible to complete the DDC improvements to the entire building at once rather than continue to do this work floor by floor as tenants turn over.
- 197 College St. / Underground Snax Tenant Fit-up – At the request of the tenant, BED visited the site of this small new retail store, which is to open in mid-summer. Discussions were held around new lighting, envelope improvements, and a possible enhancement of the cooling system via a new high-efficiency heat pump. Decisions on how to move forward are pending.
- Fletcher Free Library Major Renovation – An on-site meeting was held this month with the Library, BED, the architect, and the mechanical designer. The purpose was to discuss the progress of the plans for a major renovation of this historical building. One important subject discussed were the proposed envelope improvements, as blower door testing has indicated that a focus here will add much to building performance. The drilling of a geothermal test well is also planned. These results will have a large impact on expected project costs; this information is needed early on in the process. BED is looking at providing funding for this test well. Due to the extensive scope of the work planned, this will be a multi-phased project – with major funding sources still being identified.
- 278 Main St. / COTS Addition – This is a 16-unit affordable housing project near downtown Burlington. BED is using the energy modeling baseline/proposed building process to estimate energy savings for the project.
- Cambrian Rise Building M / New Construction Project – This is a new multifamily building that is in design near the Burlington Waterfront, part of the major Cambrian Rise development site. It contains six residential floors of a total of 168,000 SF. BED is working with the designers of the building, who are using an energy model to determine optimal building envelope and HVAC design. We have developed an incentive estimate for the preferred HVAC system to allow a more detailed financial analysis to be made, and an HVAC strategy to be finalized.
- Hula Office Complex / Lakeside Ave – This two-building new construction project on the shores of Lake Champlain has been in operation for over a year. It is notable that all heating and cooling is provided by ground-source heat pumps supplied by an open loop geothermal system. The calibration of the original energy model to the actual electrical usage of the building is now in

progress. BED made a complete tour of the facility last month to detail actual building plug loads to ensure that the energy model contains all the latest information. Some key discrepancies are still occurring between actual data and the model during certain months, and more recent non-Covid affected months are now becoming part of the calibration analysis.

Electric Vehicles

- The EVSE dispensed a total of 13.1 MWh and supported 1,252 sessions.
- The top 3 sales were 79, 80 & 82 kWh and occurred at the Cherry St. and College St. garages.
- The top 10 sessions (0.9% of total) accounted for 5.6% (735 kWh) of the total monthly sale. The ten sessions ranged from 66kWh-82kWh.
- The EVSE served 643 unique drivers.
- The replacement head for BE08/UVM Aiken Center was installed June 3. The cable management system (counterbalance cord) is being repaired.
- Session Count and Dispensed Energy plots from the from the public charging network are shown below.



- Number of EV and PHEV rebates to date – 394 (of this 73 LMI rebates to date as shown below)
 - New All Electric Vehicle – 156
 - New All Electric Vehicle (LMI) – 30
 - New PHEV – 106
 - New PHEV (LMI) – 38
 - Used All Electric Vehicle – 31
 - Used All Electric Vehicle (LMI) – 4
 - Used PHEV- 14
 - Used PHEV (LMI) – 1
 - New All Electric Vehicle (\$50K plus) – 12
 - New PHEV (\$50K plus) – 1
- Number of customer loans with lending partners to date – 5
- Number of customers currently participating in the new EV Rate- 129
- Number of EV home charging stations rebates to date – 57

Electric Lawn Equipment to Date

- Number of e-mower rebates to date – 480 (11 commercial & 469 residential)
- Number of e-leaf blowers to date – 42

- Number of Residential e-Trimmers – 20
- Number of Residential e-chainsaws – 5

Heat Pump Installations to Date (since the September 2019 NZEC announcement)

- Total Number of Heat Pump Technology rebates to date- 706 (of this 111 LMI rebates to date as shown below)
 - Number of ductless heat pumps to date – 432
 - Number of LMI eligible ductless heat pumps to date – 91
 - Number of centrally ducted heat pumps to date – 137
 - Number of LMI eligible centrally ducted heat pumps to date – 14
 - Number of air-to-water heat pumps to date – 1
 - Number of commercial VRF heat pump systems to date – 2
 - Number of geo-thermal heat pump systems to date – 1
 - Number of heat pump hot water heaters to date – 23
 - Number of LMI eligible heat pump hot water heaters participants to date – 5

Electric E-Bikes to Date

- Number of e-bike rebates to date – 299

Electric Induction Stovetops to Date (new offering in Jan 2021)

- Number of induction Stovetops rebates to date – 19

Electric Snow Blowers to Date (new offering in Jan 2022)

- Number of snow blower rebates to date – 2

BED 2021-2022 Strategic Direction Dashboard

Metrics by Strategic Initiative	Target	June 2022 Actuals	May 2022 Actuals	Apr 2022 Actuals	Mar 2022 Actuals	Feb 2022 Actuals	Jan 2022 Actuals	2021 Yearly Actual	2020 Yearly Actual	2019 Yearly Actual
Engage Customers and Community										
Call answer time 75% within 20 seconds	75%	75%	71%	85%	86%	85%	90%	avg 82%	avg 81%	
Delinquent accounts >\$500	0	89	63	40	16	571	513	avg 529	avg 201	
Disconnects for non-payment	0	0	0	0	0	0	0	0	45	
# of residential weatherization completions	10			0	0	0	0	5	3	11
Weatherization completions in rental properties			0	-	0	0	0	0	0	TBD
# or % of homes or SF weatherized		TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	0
Champ Challenge weatherization participants		0	0	2	2	3	3	0	1	TBD
# of commercial building with improved thermal envelopes		1	0	0	0	1	0	5	5	0
% of EEU charge from LMI customers spent on EE services for LMI customers		TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
# of customers enrolled in DtP mailing list	TBD	693								523
# of large customers participating in DtP		NA								
Strengthen Reliability										
SAIFI (AVG interruptions/customer) (annual target)	< 2.1	0.04	0.06	0.002	0.23	0.01	0.06	0.22	1.50	1.03
CAIDI (AVG time in hrs to restore service) (annual target)	< 1.2	1.23	0.31	12.05	0.38	1.4	0.12		0.55	0.75
Distribution System Unplanned Outages (annual target)	82	5	2	3	3	7	4	44	90	98
McNeil Forced Outages	0	0	3	0	1	0	2	5	21	TBD
W1H Forced Outages	0	0	2	2	0	0	0	9	2	TBD
GT Forced Outages	0	0	0	0	0	0	0	2	3	TBD
Invest in Our People, Processes, and Technology										
Avg. # of days to fill positions under recruitment	120	87	99	96	76	102	115	68	179	
# of budgeted positions vacant	0	7	7	9	9	9	10	avg 9	6	NA

BED 2021-2022 Strategic Direction Dashboard

Metrics by Strategic Initiative	Target	June 2022 Actuals	May 2022 Actuals	Apr 2022 Actuals	Mar 2022 Actuals	Feb 2022 Actuals	Jan 2022 Actuals	2021 Yearly Actual	2020 Yearly Actual	2019 Yearly Actual	
Innovate to Reach Net Zero Energy											
<i>Tier 3 Program</i>											
# of residential heat pump installs	See NZE Roadmap Goals below	22	12	9	26	13	20	315	203	10	
# of commercial heat pump installs		0	0	0	0	1	1	4	13	0	
# of residential hot water heat pump installs		1	1	1	0	1	0	14	6	4	
# of commercial hot water heat pump installs		0	0	0	0	0	0	0	0	0	
Heat pump rebates		22	12	9	26	14	21	328	212	0	
Heat pump hot water heater rebates		1	1	1	1	1	0	15	3	0	
LMI heat pump rebates		6	2	4	4	6	0	28	6	4	
Heat pump technology installs in rental properties		2	0	0	1	1	1	14	9	TBD	
LMI heat pump hot water heater rebates		0	0	0	1	0	0	2	0	1	
EV rebates - new		3	2	3	5	2	6	67	14	36	
EV rebates - pre-owned		2	3	3	3	0	1	7	8	2	
LMI EV rebates		3	0	1	0	0	0	11	7	7	
PHEV rebates - new		6	1	1	6	0	0	41	10	17	
PHEV rebates - preowned		1	1	0	1	0	1	6	5	3	
LMI PHEV rebates		2	2	1	5	1	1	13	6	2	
Public EV chargers in BTV (total)		27 ports	27 ports	27 ports	27 ports	27 ports	27 ports	27 ports	27 ports	27 ports	14
Public EV charger energy dispensed (kWh)		13,100	11,000	11,000	11,000	9,200	8,860	86,570	35,690	78,000	
Home EV charging station rebates		0	0	0	0	0	1	32	20	12	
EV rate charging customers (total)		129	123	116	109	106	102	40	40	28	
Level 2 charger rebates		0	0	0	0	0	0	10	0	1	
Level 1 charger rebates	0	0	0	0	0	0	0	1	0		
E-bike rebates	4	12	8	0	3	4	88	36	65		
E-mower rebates	56	23	4	1	1	2	154	95	142		
E-forklift rebates	0	0	0	0	0	0	0	0	0		
MWE of Tier 3 measures installed		1,325	1,808	1,015	2,013	829	1,730	23,763	35,112	3,342	
% Tier 3 obligation met with program measures	100%	51%	43%	33%	27%	15%	10%	159%	283%	31%	
<i>Net Zero Energy Roadmap Goals</i>											
# of solar net metering projects installed		2	7	2	3	1	4	29	24	33	
No. of homes receiving NZE Home Roadmaps		1.0	1.0	0	2	1	2	10	7		
Residential heat pumps for space heating (no. of homes)	2022: 8615	NA	NA	NA	NA	NA	NA	1235, 20% of goal	891	572	
Commercial heat pumps for space heating (1000 SF floor space served)	2022: 5397	NA	NA	NA	NA	NA	NA	405, 11% of goal	374	374	
Residential heat pumps for water heating (no. of homes)	2022: 4365	NA	NA	NA	NA	NA	NA	108, 4% of goal	108	87	
Commercial heat pumps for water heating (1000 SF floor space served)	2022: 1019	NA	NA	NA	NA	NA	NA	0	0	-	
EV registrations in BTV (light-duty)	2022: 2294	NA	NA	NA	NA	NA	NA	549, 45% of goal	361	296	
Greenhouse gas emissions (1000 metric tons CO2)	2022: 150	NA	NA	NA	NA	NA	NA	188, 114% of goal	185	214	
Fossil fuel consumption (billion BTU)	2022: 2418	NA	NA	NA	NA	NA	NA	3220, 120% of goal	3,182	3,660	

BED 2021-2022 Strategic Direction Dashboard

Metrics by Strategic Initiative	Target	June 2022 Actuals	May 2022 Actuals	Apr 2022 Actuals	Mar 2022 Actuals	Feb 2022 Actuals	Jan 2022 Actuals	2021 Yearly Actual	2020 Yearly Actual	2019 Yearly Actual
<i>Demand Response</i>										
# of Defeat the Peak events called		0	NA	NA	NA	NA	NA	5	3	4
Average kW savings per DtP event		0	NA	NA	NA	NA	NA	419.5	261	242
Manage Budget and Risks Responsibly										
<i>Safety & Environmental</i>										
No. of workers' compensation/accidents per month	0	2	3	3	0	1	0	4	8	
Total Paid losses for workers' compensation accidents (for the month)	\$225,000 annual	\$79,665	\$5,153	\$3,573	\$382	\$396	\$757	\$ 93,612	\$ 165,402	\$38,288
Lost Time Incident Rate (days/year) (Dec numbers reflect annual results)	<= 3.5	N/A	N/A	N/A	N/A	N/A	N/A	0.0	0.93	0.89
Lost Time Severity Rate (days/year) (Dec numbers reflect annual results)	<= 71	N/A	N/A	N/A	N/A	N/A	N/A	0.0	41.71	78.2
Lost work days per month	0	8	0	0	0	0	0	0.0	45	
NOx reporting levels to EPA (Quarterly) (lbs/mmbtu)	<0.075	0.065	0.062	0.0	0.07	0.07	0.071	0.07	0.07	
# of reported spills, waste water incidents (monthly)	0	2	0	0	0	0	0	4	4	
Phosphorus levels to DEC in lbs (monthly/yearly total)	<0.8/37	0.109/0.923	0.024/0.862	0.119/1.008	0.104/1.52	0.067/1.714	0.145/1.839	2.028		1.169
# of new power outage claims reported (monthly)	1	2	0	0	0	0	0	7	4	
# of new auto/property/other liability claims reported (monthly)	2	3	0	4	2	0	0	18	27	
<i>Purchasing & Facilities</i>										
# of Purchase Orders for Inventory (Target: avg for winter months)	42	27	50	59	56	39	70	644	593	
\$ value of Purchase Orders for Inv. (Target: avg dollars spent during winter)	\$78,000	\$179,709	\$394,020	\$753,161	\$626,698	\$231,292	\$566,870	\$ 3,278,620	975,531	
# of stock issued for Inventory (Target: avg during winter months)	320	562	526	446	531	556	387	4,402	4,545	
\$ value of stock issued for Inventory (Target: avg. during winter)	\$ 65,000	\$ 333,014	\$ 114,763	\$ 231,454	\$ 141,090	\$ 71,107	\$ 39,432	855,456	1,086,478	
# of posters pulled from poles monthly (Target: goal to remove each month)	58	36	117	42	164	76	96	2,728	627	
# of Spark Space and Auditorium setup/breakdowns monthly (Target: Covid impact)	3	13	11	12	7	3	2	88	87	
<i>Finance</i>										
Debt service coverage ratio	1.25		4.93	4.59	5.47	5.26	5.15	NA-FY basis	NA-FY basis	NA-FY basis
Adjusted debt service coverage ratio	1.5		1.33	1.2	1.5	1.43	1.39	NA-FY basis	NA-FY basis	NA-FY basis
Days unrestricted cash on hand	>90		140	139	138	145	142	NA-FY basis	NA-FY basis	NA-FY basis
<i>Power Supply</i>										
McNeil generation (MWH) (100%)	per budget	13,093	3,787	0	25,342	33,825	36,165	273,355	192,696	
McNeil availability factor	100%	39%	11%	60%	87%	100%	96%	80%		
McNeil capacity factor	per budget	36%	10.2%	0%	68%	100.7%	97.2%	62.4%		
Winooski One generation (MWH)	per budget	1,309	3,046	4,495	3,850	1,751	1,635	24,752	21,194	
Winooski One availability factor	100%	98%	97%	97%	99%	98%	98%	97%		
Winooski One capacity factor	per budget	55%	55%	84%	69%	35%	30%	37%		
Gas Turbine generation (MWH)	NA	77.3	40	16	137.4	13.7	16.1	373	441	
Gas Turbine availability factor	100%	100%	100%	100%	97%	100%	93%	96%		
Gas Turbine capacity factor	NA	0.56%	0.23%	0.1%	0.8%	0.09%	0.09%	0.21%		
BTV solar PV production (mWh)			687	488	396	235	156	5,015	5,182	
Cost of power supply - gross (\$000)			\$3,649	\$2,565	\$2,718	\$2,409	\$2,116	\$30,285	\$31,081	
Cost of power supply - net (\$000)			\$1,331	\$2,565	\$2,718	\$746	\$2,116	\$22,134	\$23,388	
Average cost of power supply - gross \$/KWH			\$0.14	\$0.11	\$0.10	\$0.09	\$0.07		\$0.10	
Average cost of power supply - net \$/KWH			\$0.05	\$0.11	\$0.10	\$0.03	\$0.07		\$0.08	

*****DRAFT*****
MINUTES OF REGULAR MEETING
BURLINGTON ELECTRIC COMMISSION

Wednesday, June 8, 2022, 5:30 pm

The regular meeting of the Burlington Electric Commission was convened at 5:31 pm on Wednesday, June 8, 2022 at the Burlington Electric Department at 585 Pine Street, Burlington, Vermont and virtually through Microsoft Teams.

Channel 17 was present to record this meeting.

Commissioners Herendeen, Moody, Stebbins, and Whitaker were present. Commissioner Chagnon was absent.

Staff members present at 585 Pine Street included Paul Alexander, Emily Byrne, Rodney Dollar, Andy Elliston, James Gibbons, Mike Kanarick, Munir Kasti, Laurie Lemieux (Board Clerk), Paul Pikna, Darren Springer, and Emily Stebbins-Wheelock.

Staff members present via Microsoft Teams included Dave MacDonnell.

1. Agenda

There were no changes to the Agenda.

2. May 18, 2022 Meeting Minutes

Commissioner Moody made a motion to approve the minutes of the May 18, 2022 Commission Meeting; the motion was seconded by Commissioner Herendeen and approved by all Commissioners present.

3. Public Forum

Mr. Bill Ellis, Esq., from the McNeil Leddy, and Sheehan law firm was present via Microsoft Teams for the meeting.

4. Commissioners' Corner

Commissioner Herendeen stated at the last meeting that he looked at the BED website and did not see BED's 2021 Performance Measures Report (PMR). At that time, Mr. Kanarick stated that the team was working on completing it and that it should be published soon. Commissioner Herendeen stated that he looked on the BED website today, saw that the 2021 PMR was published, and thanked Mr. Kanarick.

5. GM Update

Mr. Springer stated that the BED Rate Change was approved unanimously by the Board of Finance and City Council on Monday and will be filed with the PUC in mid-June, so that surcharges would start appearing on customer bills in August.

BED also had unanimous approval for two District Energy System items, including a resolution supporting the creation of a 501(c)(3) run by Evergreen Energy to manage further district energy development work, and ultimately to finance, permit, and construct the system if the decision is made to move forward as of the end of 2022. We also brought formal acceptance of the \$5.16 million in federal funds secured by Senator Leahy to the Council. Work proceeds on a letter agreement with all the partners to guide additional project development work to be completed in 2022, and to keep us on schedule for construction in 2023 and operation in 2024 if the financial terms are acceptable. Updated financial terms will be provided by the end of 2022, including for interest rates on the debt financing, updated construction pricing, and updated fuel costs for steam.

Mr. Springer stated that BED is working on policy development and working with different stakeholders on having additional building policies under the Charter Change that was recently passed. The department had a good meeting with UVM, and we are scheduling a meeting with UVMMC. We are working with the Building Electrification Institute, which is looking at policies that are in place in areas such as Denver and New York that have a similar cold climate. We are looking at the large existing commercial buildings because that is where developing policy will be the most challenging. It is much easier to set policy for new construction, therefore, if we are going to set policies for existing buildings, we want to be thoughtful about how that will work for the building owners and how they will manage what is expected of them. Our first report back will be an initial report on July 18 with a final report in the future.

Mr. Springer stated that BED plans to update two currently vacant positions in Sustainability and Energy Services to add Net Zero Energy capacity, while also creating a new business project management position in IT.

BED is working to create our first-ever Net Zero Energy festival at 585 Pine Street, on Saturday, September 17 from 9am-1pm, with a rain date of September 24. Our team is in the planning stages and planning to include live music, kids art and activities, technology demonstrations such as EV test drives and E-bike test rides, EV auto dealer and heat pump installer booths/tables, bike tune-ups, a visit from the Lake Monsters' CHAMP, zero fossil fuel food and drink carts, and many other activities.

6. FY22 April Financials

Ms. Byrne presented the budget-vs-actual results for the month of April FY22. The Department had a net income of \$(1,671K) in March compared to a budgeted net income of (\$1,108K). On the

revenue side, actual sales to customers were unfavorable compared to budget by \$194K. Residential sales were up \$69K, and commercial sales were down \$263K. Other revenues were up \$18K, partially due to higher than budgeted EEU receipts. There were no REC receipts in April.

Power supply expenses were \$177K over budget. Transmission fees were under budget for the month. The Policy and Planning team continues to research the budget variance. Operating expenses were over \$110K compared to budget. This was primarily due to \$342K of 2022 revenue bond issuance costs incurred in April that were not included in the budget. This expense was offset by lower than budgeted operating expenses, including labor, materials, and outside services. Other income was under budget due to lower than anticipated customer contributions. Interest expense was under budget by \$12K.

For FY22 year-to-date, actual net income is \$898K better than budget. Sales to Customers is \$58K under budget. Other revenues are down due to lower than anticipated EEU receipts and customer billings. Power supply revenues are down by \$48K or less 1% for the year. On the expense side, power supply is under budget by \$1,689K, driven by purchase power, transmission, and fuel costs all coming in under budget. Operating expenses are running below budget by \$1.168M.

As of April, the Department has spent 49% of the FY22 capital budget. Capital spending will see an increase in May due to the receipt and payment of invoices associated with the McNeil overhaul. At the end of April, the Department has an operating cash balance of \$11.26M with 139 days cash on hand. The debt service coverage ratio is 4.59 and the adjusted debt service coverage ratio is 1.21.

7. 2022-23 Draft Strategic Direction

Mr. Springer reviewed the changes made to the draft Strategic Direction and stated that the focus of the edits was on updating the different initiatives.

Following are the changes that are proposed:

Section “Engage Customers and Community”

Add initiative *“Provide website tools so that customers can evaluate both cost and carbon saving from heat pump technology installations.”*

Section “Manage Budget and Risks Responsibility”

Add *“Mitigate cybersecurity risk through awareness, assessment, policy, and practices.”*

Mr. Springer stated that this Strategic Direction is a little more specific than what we have had in the past and stated that a lot of the initiatives are ongoing with work that is current and continuing.

Commissioner Whitaker stated that this document seems like a lot of information and is complicated. Mr. Springer stated that, in the past years, the department had more of a work plan in

the initiatives, and has moved away from that approach to set initiatives that are more durable and reflect the kind of ongoing work that the department is doing. One of the goals is that everyone in the company can see a piece of their work reflected in this document.

Commissioner Stebbins stated that it is helpful to look at the dashboard in tandem with this document because it helps to see the actual progress and helps connect the dots and suggested that an asterisk be placed on the document with a link to the dashboard.

Mr. Springer made note of the feedback from the Commission and stated that these edits will be brought back to the BED team.

Mr. Springer stated that the Commission has provided great feedback, thanked the Commission for their patience, and said that he looks forward to presenting a final Strategic Direction at the July meeting.

8. Addition of Emily Byrne to the Signatory List for BED Accounts

Mr. Springer stated that he and Ms. Stebbins-Wheelock are presently signatories on the BED accounts, and Mr. Springer, Ms. Stebbins-Wheelock, and Mr. Kasti are signatories on the McNeil accounts. Mr. Springer stated that in the past we have asked the Commission to approve the addition of actual employees instead of positions. We are now asking the Commission to approve whichever employees are serving in the positions of General Manager, Manager of Strategy and Innovation, COO and Manager of Utility Services and Engineering, and Director Finance. This approach will alleviate coming back to the Commissioner if there is a staffing change in the future.

Commissioner Whitaker made a motion that the Burlington Electric Commission authorize signers of treasury, banking, and other asset management accounts for the Burlington Electric Department shall be the employees in the following positions:

For Department Accounts: General Manager, Manager of Strategy and Innovation, and Director of Finance.

For McNeil Generating Station Accounts: General Manager, Manager of Strategy and Innovation, COO and Manager of Utility Services and Engineering, and Director of Finance.

This motion was seconded by Commissioner Stebbins and approved by all Commissioners present.

9. Street Lighting Primer

Commissioner Stebbins stated that the next item is the Street Lighting Primer with the potential for an Executive Session. The next item regarding the Moran MOU is also in Executive Session and the Commission should make the motion to enter Executive Session for both items instead of separately. It was agreed that, after the Street Lighting presentation, the Commission and staff

would enter Executive Session.

Commissioner Stebbins stated that there were street lights that have been replaced or updated, and that the Commission has heard from a number of residents asking if the streetlighting work is necessary and from where do the lighting standards come. The BED team spent time in the field talking to customers to identify areas where either the lighting could be angled differently or addressed but ultimately staying with the IES Standards.

The Commission wanted to review the street lighting in more detail and update the new Commissioners.

Andy Elliston, Director of Engineering and Technical Services, presented a PowerPoint presentation and explained that BED has the responsibility of lighting the accepted streets of the City of Burlington and that BED follows the Street Lighting Policy adopted by the Commission. Mr. Elliston explained that street lighting in Burlington is designed to conform to the Illuminating Engineering Society (IES) recommendations for lighting levels and fixtures are modeled using a road template, and light levels on the street and sidewalk are evaluated. The department's goals are energy efficiency and providing adequate lighting on the street and sidewalk while minimizing spill beyond the sidewalks.

Mr. Elliston provided a quick overview of lighting level definitions and street classifications and stated that street classifications are based on expected traffic volume, with higher levels of traffic requiring higher levels of lighting. Sidewalk levels also follow a classification of high, medium, and low. In Burlington we would use Low Conflict-Medium Density for the majority of the residential areas.

Mr. Elliston provided a graph showing the lighting design criteria for streets, a sidewalk graph showing recommended values for medium pedestrian conflict areas, and a graph showing illumination for intersections.

Mr. Elliston explained how street lighting designs are completed and the process and steps taken to ensure that the levels meet the standards, and stated that the department strives to choose the lowest output level fixtures that allow BED to meet all minimum criteria.

New solutions were made possible in the 2020 revision to the Street Lighting Policy. These changes included shorter arms and shorter poles.

Due to recent feedback from customers and at the request of the Commission, BED is investigating the feasibility of reducing lighting levels in certain areas of the City, primarily the residential areas.

In January, the Department reached out to IES for clarification on two items, Section 11.6.3 "When Residential Street Lighting may not be needed" and Section 11.6.3.1 "Streets with travel speed below 30 mph" which states that streetlights may not be necessary for driver vision, but also

specifically states that it doesn't address lighting for pedestrian needs. We also asked if there was a venue where we can ask questions. To date, we have not gotten a response from the IES. We did, however, purchase the new version of the RP-8 Handbook, and currently are evaluating it to see what, if anything, has changed.

Commissioner Stebbins stated that, while the Commission does not receive a lot of public comment on items, one of the few times has been on street lighting issues. Commissioner Stebbins believes it would be helpful for the public to know that there has been some legal precedent and legal guidance around this issue. Commissioner Stebbins asked Paul Alexander, Manager of Safety and Risk Management, to talk about the guidance the department has received.

Mr. Alexander stated that, in the legal, insurance, and risk management world, no one is more risk averse than this group. When the topic of lowering lighting levels comes up, as long as we are meeting the standards/guidelines that IES puts out, we are generally good. When we receive a claim or there is an accident, that is when the lighting issue is going to be scrutinized, and we would not want to be below those IES standards.

Commissioner Stebbins asked if the Commission would like to look into this issue further. We do have a couple of the Commissioners who feel strongly that we stay with the IES Standards, or we could discuss more about this when all the Commissioners are present for the meeting.

The Commission decided to give Mr. Elliston and his team some time to review the new version of the RP-8 Handbook, and Commissioner Herendeen has volunteered to research any changes made in other communities/cities. This subject will be addressed again at the September Commission Meeting.

10. Moran Frame Update

Mr. Springer stated that Mr. Bill Ellis, BED's longstanding regulatory attorney, is in attendance and will join the Commission in Executive Session. Mr. Springer stated that this agenda item related to BED and its potential liability with the Moran site and the construction of the Moran Frame Project and that he would like to discuss this topic in Executive Session.

At this time the Commission will enter into Executive Session to discuss Street Lighting and BED's Memorandum of Understanding regarding the Moran Plant.

Commissioner Moody made a motion that premature general public knowledge of BED's history, background, and legal cases relating to street lighting and premature general public knowledge of BED's Memorandum and Understanding regarding the Moran Plant would clearly place the Burlington Electric Department at a substantial disadvantage per Title 1, Section 313 (a)(1) of the Vermont Statutes; the motion was seconded by Commissioner Whitaker and approved by all Commissioners present.

Commissioner Moody made a motion to enter into Executive Session at 6:49 pm with Burlington Electric Department Staff to discuss S BED's history, background, and legal cases relating to street lighting and BED's Memorandum of Understanding regarding the Moran Plant, under the provisions of Title 1, Section 313(a) (1)(A) of the Vermont Statutes; the motion was seconded by Commissioner Herendeen and approved by all Commissioners present.

Commissioner Moody made a motion to exit Executive Session at 7:18 pm; the motion was seconded by Commissioner Herendeen and approved by all Commissioners present.

11. Commissioners' Check-In

There were no Commissioner check-ins.

Commissioner Moody made a motion to adjourn; the motion was seconded by Commissioner Herendeen and approved by all Commissioners present.

The meeting of the Burlington Electric Commission adjourned at 7:22 p.m.

Attest:



Laurie Lemieux, Board Clerk



*FY 2022
Financial Review
May*

July 5, 2022

Burlington Electric Department Financial Review

FY 2022

Table of Contents:

● Financial Highlights	1-2
● Revenues and Expenses	
○ KWH Sales – Total	3
○ Cooling/Heating Degree Days	4
○ KWH Sales – Residential & Commercial	5
○ Net Power Supply Costs	6-11
○ Operating & Maintenance Expense	12
○ Labor Overhead	13
○ Net Income	14
● Capital Spending	15 - 18
● Cash	19

FINANCIAL HIGHLIGHTS – BUDGET VS ACTUAL as of May FY22

(\$000)	Full Yr Budget	CURRENT MONTH			YEAR TO DATE		
		Budget	Actual	Variance	Budget	Actual	Variance
Sales to Customers	48,172	3,580	3,703	123	44,296	44,361	65
Other Revenues	3,978	298	208	(91)	3,406	2,778	(628)
Power Supply Revenues	8,404	2,346	2,318	(28)	8,404	8,327	(77)
Total Operating Revenues	60,554	6,224	6,229	4	56,106	55,466	(640)
Power Supply Expenses	32,155	2,666	3,649	(983)	29,472	28,766	706
Operating Expense	21,543	1,645	1,703	(58)	18,723	17,613	1,110
Depreciation & Amortization	6,007	501	498	3	5,507	5,587	(81)
Gain/Loss on Disp of Plant	291	0	0	0	291	233	58
Taxes	3,935	332	284	48	3,610	3,050	560
Sub-Total Expenses	63,932	5,143	6,133	(990)	57,603	55,250	2,353
Operating Income	(3,378)	1,081	95	(986)	(1,497)	216	1,713
Other Income	6,588	468	367	(100)	6,146	4,170	(1,976)
Interest Expense	2,402	204	189	14	2,199	2,109	90
Net Income (Loss)	808	1,345	274	(1,072)	2,450	2,277	(173)

Year-to-Date Results:

- **Sales to Customers** up \$65,000 (within budget). Residential Sales up \$1,075,600 and Non-Residential Sales down, \$1,003,600.
- **Other Revenues** down \$628,000 (18%)
 - a. DSM billable (customer driven) down \$543,200.
- **Power Supply Revenues** down \$77,000 (1%)
 - a. McNeil REC revenue of \$5,157,000 compared to a budget of \$4,059,000.
 - b. Wind REC revenue of \$2,342,000 compared to a budget of \$3,382,000.
 - c. Hydro REC revenue of \$670,000 compared to a budget of \$767,000.
 - d. Other REC revenue of \$159,000 compared to a budget of \$196,000.
- **Power Supply Expenses** down \$705,000 (2%)
 - a. Fuel down \$737,000.
 - b. Purchased Power up \$141,000.
 - c. Transmission Fees down \$110,000.
- **Taxes** down \$560,000 (15.5%)
 - a. Actual Payment in Lieu of Tax (PILOT) is less than budget assumption. This is projected to be a \$580,000 positive variance for the year.
- **Operating Expenses** down \$1,110,000 (5.9%)
 - a. Various items are less than budget. This includes labor & overhead (\$526,700), outside services (\$45,100), materials & supplies (\$239,100), transportation clearing & building clearing (\$133,300) and uncollectible accounts (\$99,500). Offset by higher expense due to the credit for A&G (“Admin and General Expenses”) charged to Capital projects was less than planned, \$376,100.
- **Other Income** down \$1,976,000
 - a. Budget assumed \$750,000 of ARPA. Also, assumed customer contributions for Shelburne Road roundabout relocation, \$616,700, UVM LCOM, \$116,200 & Champlain Pkwy, \$546,800.

FINANCIAL HIGHLIGHTS – BUDGET VS ACTUAL as of May FY22

Capital Spending – May YTD (\$000's)				
Plant Type	Full Yr. Budget	Budget	Actual	% Spent
Production	\$1,017	\$1,1014	\$322	32%
Other	192	182	0	0%
Distribution	3,577	3,484	3,169	89%
General	2,034	1,871	896	44%
Sub-Total	6,820	6,551	4,388	64%
Transmission	1,150	1,150	0	0%
Total	\$7,970	\$7,701	\$4,388	55%

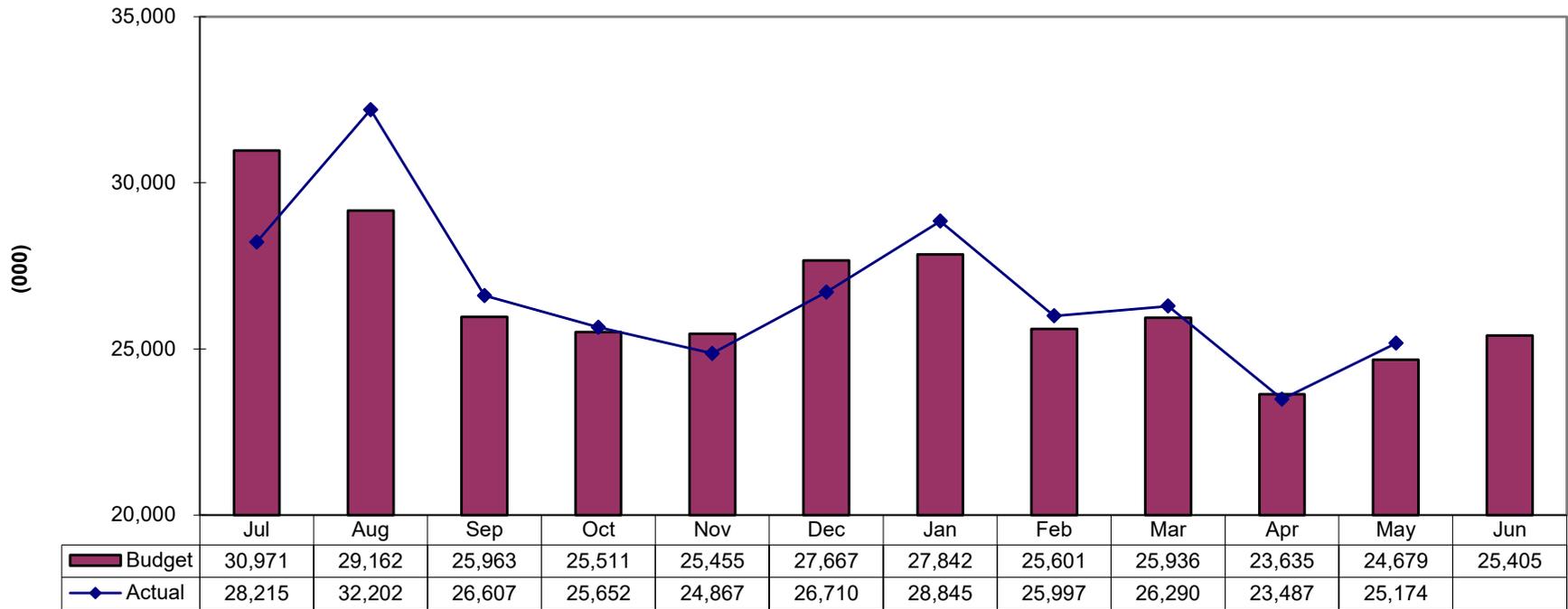
- (1) **Production** – Timing of projects at McNeil, \$411,000 and Gas Turbine, \$76,000. The unit #3 bearing replacement budgeted for Winooski One will not happen this fiscal year, \$125,000.
- (2) **Other** – Timing; budget includes Level 2 & 3 chargers, Packetized Energy, and research & development.
- (3) **Distribution** – Timing of various projects; replace condemned poles deferred to future year and delivery of UG switches delayed until FY23.
- (4) **General** – IT Forward project was budgeted throughout the year; YTD expenses of \$751,500 compared to a budget of \$1,399,500. Pole mount routers YTD expenses of \$13,700 vs budget of \$135,000. Electric Bucket Truck replacement was budgeted throughout the year, delivery has been delayed until FY 2024.
- (5) **Transmission** – VT Transco equity purchased deferred.

As of May 31, 2022 Cash and Investments	
Operating Funds	\$9,913,800
Operating Fund – CDs	\$1,152,700
Total Operating Fund	\$11,066,500

Credit Rating Factors				
	"A"	"Baa"	Current	3 Year Average
Debt Service Coverage Ratio	1.25	1.25	4.93	3.86
Adjusted Debt Service Coverage Ratio	1.50	1.10	1.33	0.97
Cash Coverage - Days Cash on Hand	90	30	140	125

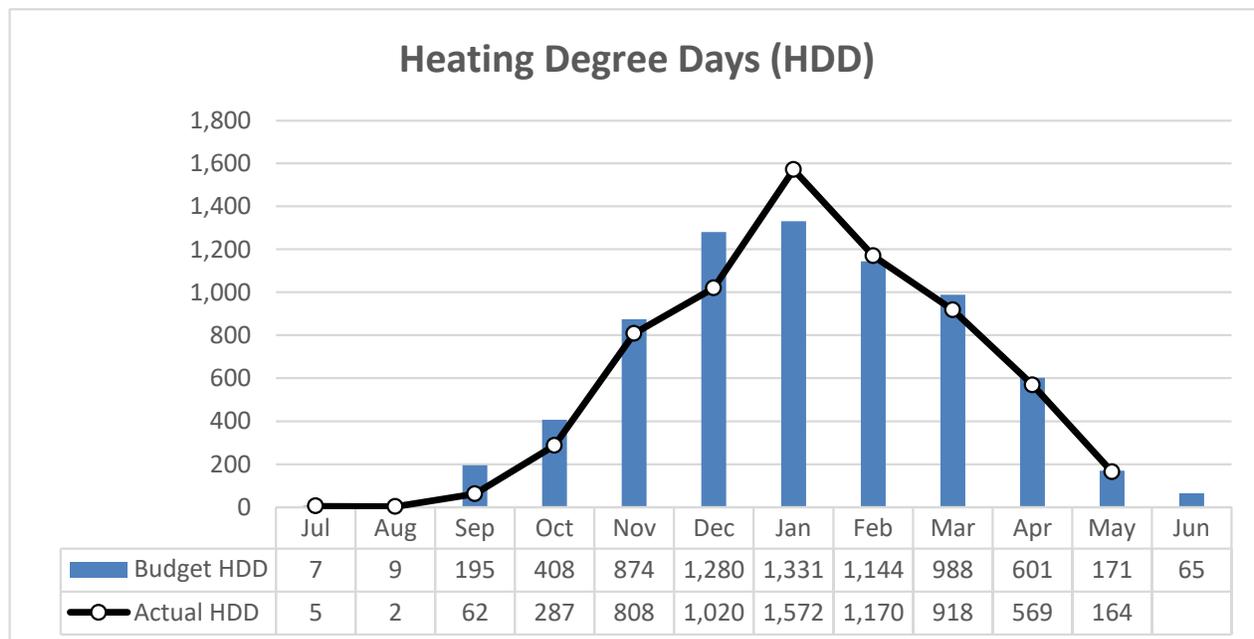
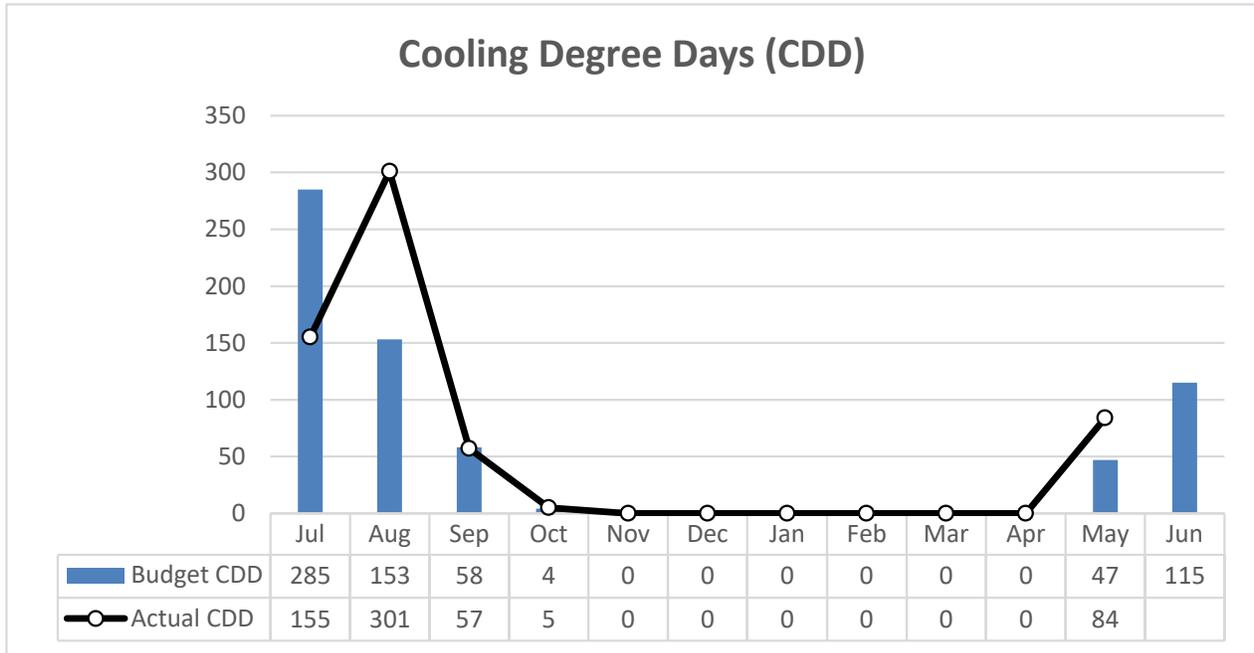
**Burlington Electric Department
Fiscal Year Ending June 30, 2022**

**Total Sales to Customers - KWH
Monthly**



KWH Sales to Customers (YTD)												
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Budget	30,971	60,134	86,097	111,608	137,063	164,730	192,571	218,172	244,108	267,743	292,422	317,827
Actual	28,215	60,417	87,024	112,676	137,543	164,253	193,098	219,094	245,384	268,872	294,046	

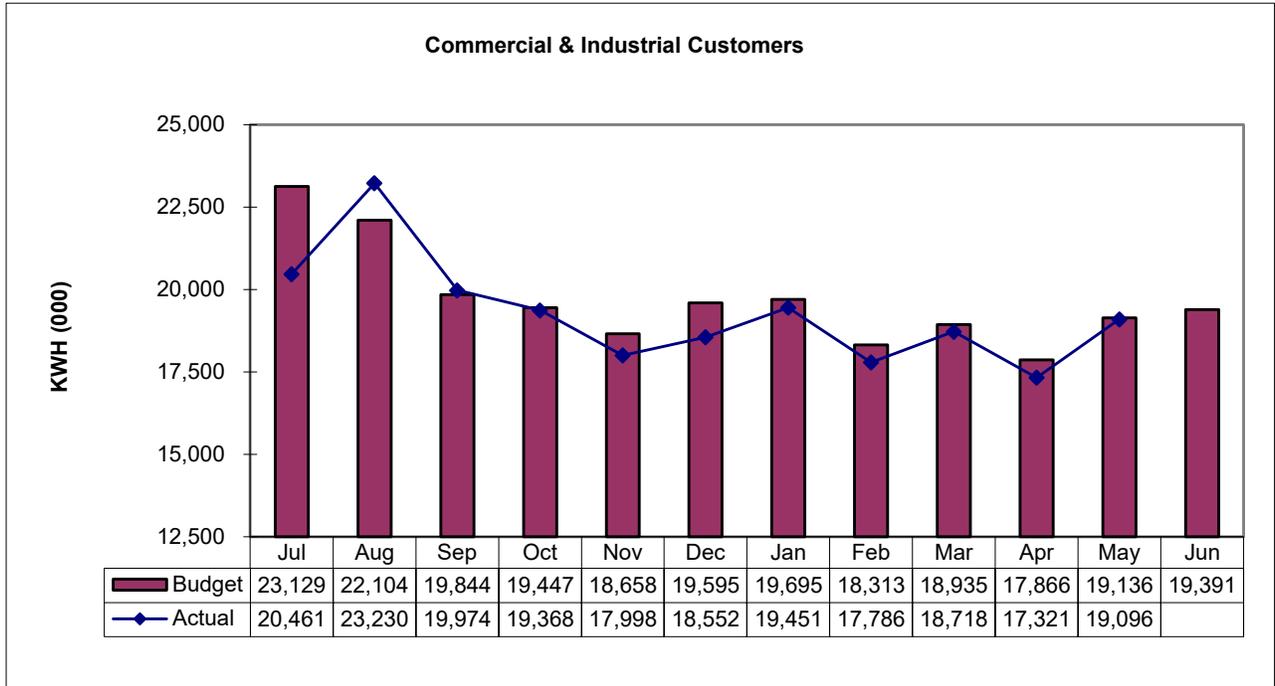
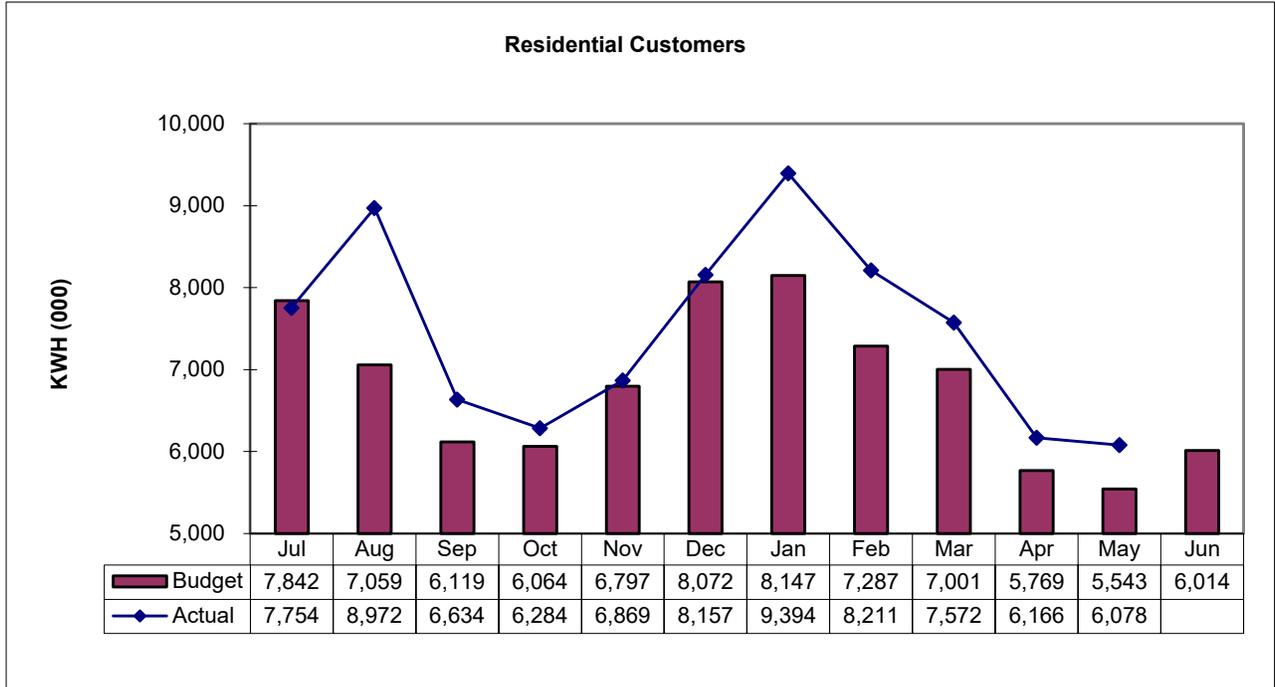
FY 2022



Average Monthly Temperature												
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Budget	72	70	63	50	39	27	21	22	32	45	58	67
Actual	70	74	56	56	38	32	14	23	35	46	62	

CDD/HDD definition per National Weather Service: Degree days are based on the assumption that when the outside temperature is 65°F, we don't need heating or cooling to be comfortable. Degree days are the difference between the daily temperature mean (high temperature plus low temperature divided by two) and 65°F. If the temperature mean is above 65°F, we subtract 65 from the mean and the result is Cooling Degree Days. If the temperature mean is below 65°F, we subtract the mean from 65 and the result is Heating Degree Days.

**Burlington Electric Department
Fiscal Year Ending June 30, 2022
KWH Sales**



Street Lighting is included with Commercial & Industrial Customers.

**Net Power Supply Costs
May - FY 2022**

	(\$000)						
	Current Month			Year-to-Date			
	Budget	Actual	Variance	Budget	Actual	Variance	
Expenses:							
Fuel (p. 7)	\$542	\$178	\$365	(1)	\$7,902	\$7,165	\$737 (1)
Purchased Power (p.11)	1,319	2,653	(1,334)	(2)	13,362	13,503	(141) (2)
Transmission Fees - ISO	471	492	(22)	(3)	6,051	6,458	(407) (3)
Transmission Fees - Velco	267	224	43	(4)	1,506	770	737 (4)
Transmission Fees - Other	67	102	(35)	(5)	651	871	(220) (5)
Total Expenses	<u>2,666</u>	<u>3,649</u>	<u>(983)</u>		<u>29,472</u>	<u>28,766</u>	<u>706</u>
Revenues:							
Renewable Energy Certificates - McNeil	1,029	1,715	686		4,059	5,157	1,098 (6)
Renewable Energy Certificates - Wind	1,105	355	(750)		3,382	2,342	(1,040) (7)
Renewable Energy Certificates - Hydro	182	211	29		767	670	(97) (8)
Renewable Energy Certificates - Other	30	37	7		196	159	(37)
Total Revenues	<u>2,346</u>	<u>2,318</u>	<u>(28)</u>		<u>8,404</u>	<u>8,327</u>	<u>(77)</u>
Net Power Supply Costs	<u>\$319</u>	<u>\$1,331</u>	<u>(\$1,011)</u>		<u>\$21,068</u>	<u>\$20,439</u>	<u>\$629</u>
Load (MWh)	25,121	26,016	896		297,037	302,068	5,031
\$/MWh	\$12.72	\$51.15	\$38.44		\$70.93	\$67.66	(\$3.26)

Current Month:

- (1) See detail on page 7.
- (2) See detail on page 11.
- (3) ISO-NE Transmission over Budget due to higher rates.
- (4) VELCO Transmission under Budget due to lower Common charges.
- (5) NYPA Transmission (NYISO charges) over Budget.

YTD:

- (1) See detail on page 7.
- (2) See detail on page 11.
- (3) ISO-NE Transmission over Budget due to higher rates.
- (4) VELCO Transmission under Budget due to lower 91 VTA Common charges, including a reduction for the return of accumulated deferred income tax for 2020 and 2021.
- (5) NYPA Transmission (NYISO charges) over Budget.
- (6) Production over Budget. Gross of covering REC Sales in reported as Miscellaneous.
- (7) Production under Budget.
- (8) Production under Budget.

**Net Power Supply Costs
May - FY 2022**

	(\$000)					
	Current Month			Year-to-Date		
	Budget	Actual	Variance	Budget	Actual	Variance
<u>FUEL:</u>						
McNeil:						
Fuel Consumed	344	90	254 (1)	5,478	5,010	468 (1)
Swanton Yard	31	10	20 (1)	486	575	(89)
Train Deliveries	62	14	48 (1)	986	867	119 (1)
Labor & Other Expenses	102	51	50 (2)	856	571	286 (2)
Total McNeil Fuel	538	165	373	7,806	7,022	784
Gas Turbine	4	13	(8) (3)	96	143	(47) (3)
Total Fuel	542	178	365	7,902	7,165	737

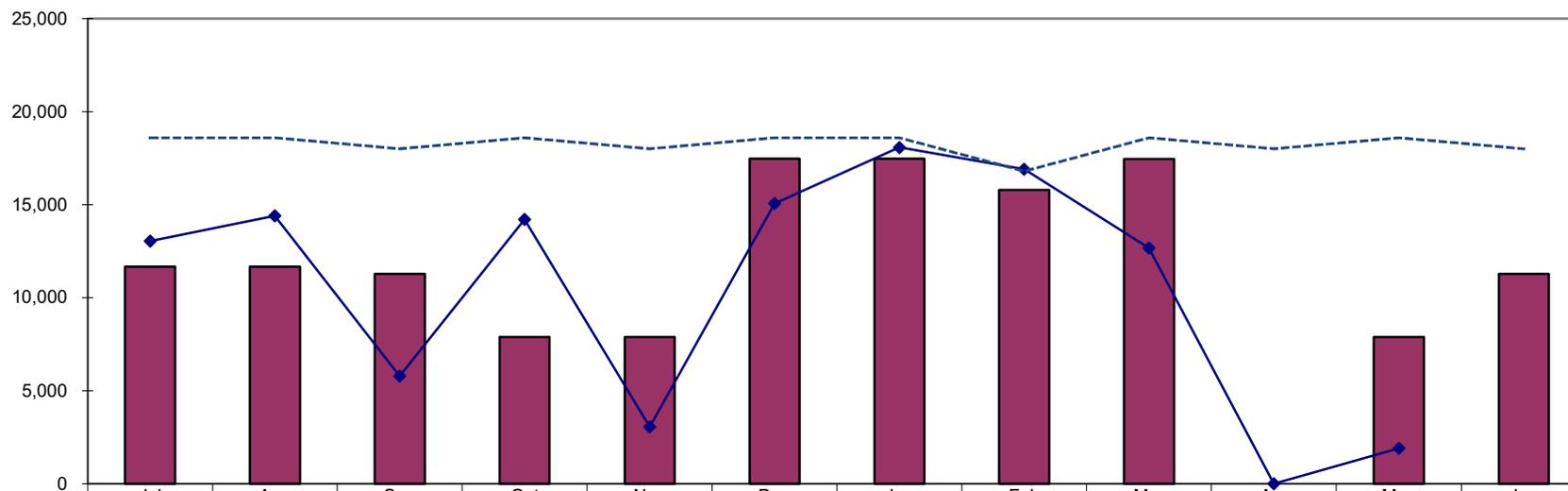
Current Month:

- (1) McNeil production 76% under Budget. Woodchip costs (per ton) 8% over Budget. (p. 9)
- (2) Actual labor is based on tonnage consumed by McNeil; budgeted labor is based on personnel/days in the month, thus timing issues for comparative purposes.
- (3) GT produced 40 MWh (174% over Budget).

YTD:

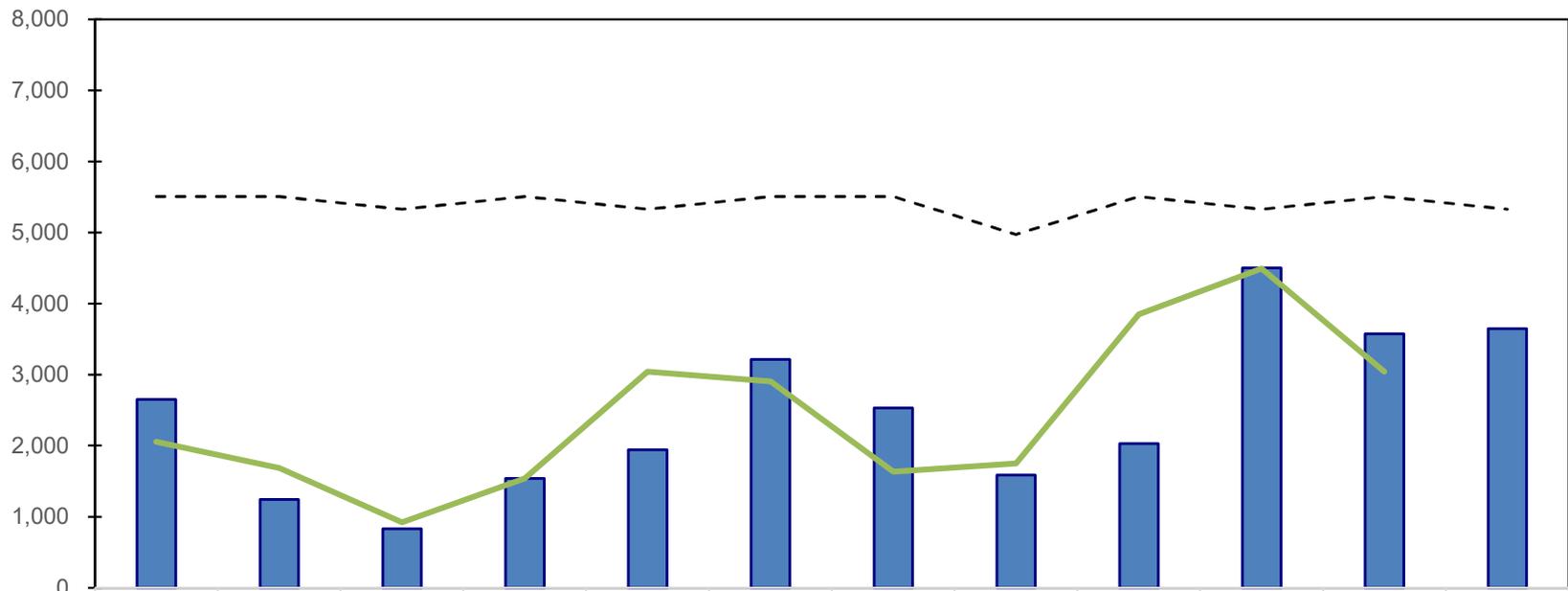
- (1) McNeil produced 9% under Budget. (p. 9)
- (2) See Current Month.
- (3) GT produced 467 MWh (46% over Budget).

**Burlington Electric Department
McNeil Plant - MWH Production (50%)
FY 2022**



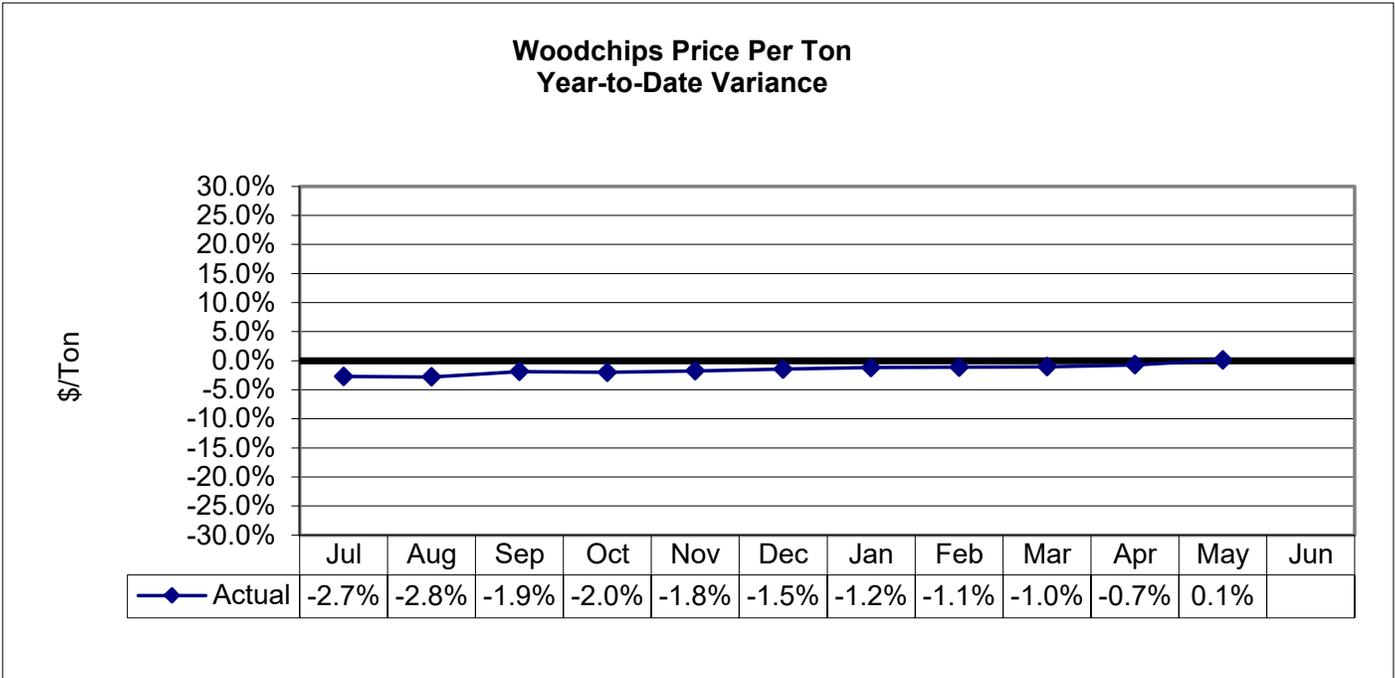
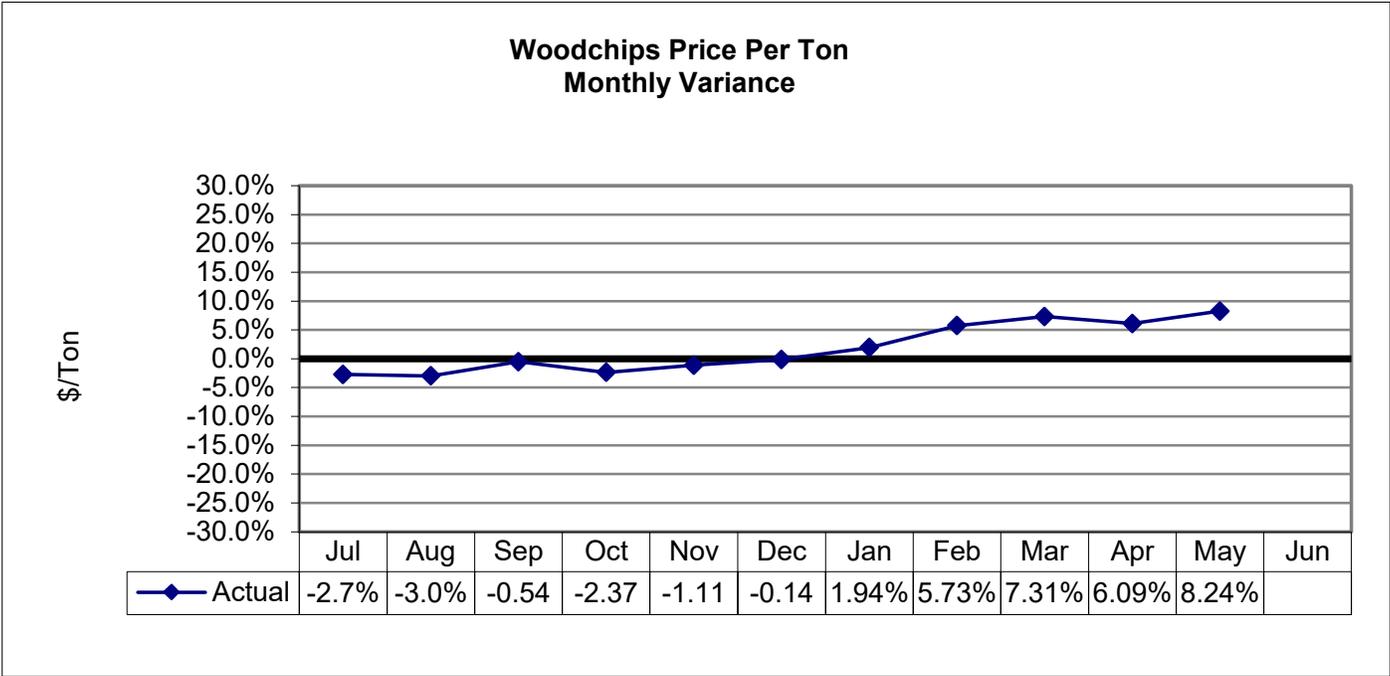
Budget	11,656	11,656	11,280	7,896	7,896	17,484	17,484	15,792	17,461	0	7,896	11,280
Actual	13,047	14,396	5,794	14,209	3,057	15,066	18,083	16,913	12,671	0	1,894	
Maximum	18,600	18,600	18,000	18,600	18,000	18,600	18,600	16,800	18,600	18,000	18,600	18,000

**Burlington Electric Department
Winooski One - MWH Production
FY 2022**



Budget	2,650	1,246	832	1,541	1,942	3,216	2,531	1,587	2,032	4,503	3,575	3,643
Actual	2,054	1,687	921	1,541	3,044	2,903	1,635	1,751	3,849	4,495	3,046	
Maximum	5,506	5,506	5,328	5,506	5,328	5,506	5,506	4,973	5,506	5,328	5,506	5,328

Burlington Electric Department Fiscal Year 2022



* Wood only. Does not include other costs.

**Net Power Supply Costs
May - FY 2022**

	(\$000)					
	Current Month			Year-to-Date		
	<u>Budget</u>	<u>Actual</u>	<u>Variance</u>	<u>Budget</u>	<u>Actual</u>	<u>Variance</u>
<u>PURCHASED POWER:</u>						
Non-Energy (capacity)	102	121	(19)	1,190	1,401	(210)
Energy:						
Georgia Mountain Wind	283	247	35 (1)	3,117	2,855	262 (1)
Hancock Wind	235	132	103 (2)	3,171	2,139	1,032 (2)
VT Wind	240	156	85 (3)	2,499	2,474	25 (3)
Hydro Quebec	245	254	(10) (4)	2,570	2,638	(68) (4)
Great River Hydro	173	172	0	1,844	1,841	2
In City Solar Generators	89	114	(26) (5)	743	736	7
NYPA	6	5	1	68	87	(19)
VEPPI	0	0	0	0	0	0
ISO Exchange	(108)	473	(581) (6)	(2,445)	(2,191)	(254) (5)
Velco Exchange	0	(0)	0	0	(11)	11
Total Energy	<u>1,162</u>	<u>1,554</u>	<u>(392)</u>	<u>11,566</u>	<u>10,568</u>	<u>998</u>
Ancillary Charges	(13)	6	(19)	24	(8)	33
Miscellaneous	68	972	(905) (7)	580	1,542	(962)
Total Purchased Power Expense	<u><u>1,319</u></u>	<u><u>2,653</u></u>	<u><u>(1,334)</u></u>	<u><u>13,362</u></u>	<u><u>13,503</u></u>	<u><u>(141)</u></u>

Current Month:

- (1) Production 13% under Budget.
- (2) Production 26% under Budget. Rate 24% under Budget due to Financial Adjustment.
- (3) Production 35% under Budget.
- (4) Rate 4% over Budget.
- (5) Production 31% over Budget.
- (6) McNeil (76%), Winooski One (15%), and Wind (28%) production under Budget. Does not include \$36k in McNeil and GMCW resettlement.
- (7) Includes \$936k (\$911k over Budget) in REC Purchases, \$432k covering McNeil sale and \$504k in VT1 REC opportunity purchase.

YTD:

- (1) Production 9% under Budget. Lower CY21 production resulted in lower REC revenues in FY22. (Fourth turbine back on line 11/18/21)
- (2) Production 15% under Budget. Rate 21% under Budget due to Financial Adjustment. Lower CY21 production resulted in lower REC revenues later in FY22. Lower CY22 production will result in lower REC revenues later in FY23.
- (3) Production 1% under Budget. Lower CY21 production resulted in lower REC revenues later in FY22.
- (4) Rate 3% over Budget.
- (5) McNeil (9%) and Wind (9%) production under Budget.

**Burlington Electric Department
Operating and Maintenance Expense by Spending Category
FY 2022-May**

Description	Budget	Actual	Variance	% Variance	*
Labor-Regular	7,550,619	7,170,796	379,823	5%	
Labor-Overtime	467,383	527,656	(60,273)	13%	a
Labor-Temporary	6,500	12,574	(6,074)	93%	b
Labor-Overhead	2,883,251	2,736,356	146,895	5%	c
Outside Services	2,253,929	2,208,856	45,073	2%	d
DSM (rebates & outside services)	1,800,640	1,740,334	60,306	3%	e
Materials & Supplies	814,798	575,685	239,113	29%	f
Insurance	671,201	631,486	39,715	6%	
A & G Clearing	(758,606)	(382,487)	(376,119)	50%	g
Other - RPS Compliance	618,249	833,155	(214,906)	35%	
Other	2,414,926	1,558,221	856,705	35%	h
Operating and Maintenance Expense	18,722,890	17,612,632	1,110,258	6%	

(a) System Operations is higher than budget \$147,100; offset by areas lower than planned; Distribution (\$51,500), McNeil Plant (\$29,400), Generation (\$10,900) & Customer Care (\$7,000).

(b) Policy & Planning assumed intern positions in July, December & January. Actual includes temporary help in system operations.

(c) See page 13.

(d) Timing of various items; GT & W1 (\$32,600), McNeil Plant (\$51,300), tree trimming (\$33,000) and REC Broker commission fees (\$86,000). Actual DPS billback expenses for rate case less than projected (\$148,600). Offset by Revenue Bond issue cost, \$342,900.

(e) Projects are driven almost entirely by customer decisions. The budget is based on information on specific projects or seasonal variations; otherwise the amount is spread evenly across the year.

(f) Timing; McNeil Plant (\$77,700), Distribution (\$53,700) & Safety (\$20,000).

(g) The credit for A&G ("Admin and General Expenses") charged to Capital projects was less than planned.

(h) Timing: various areas are less than budget including; Training/Education (\$87,900), Transportation Clearing (\$67,700), Building Clearing, (\$65,600), Dues & Fees (\$36,600), Utilities (\$36,800) and Uncollectible Accounts (\$99,500).

**Burlington Electric Department
Budget vs Actual Spending Analysis
FY 2022 - May YTD**

Labor - Overhead	(000's)			%	
	Budget	Actual	Variance		
Pension	\$1,392	\$1,293	\$99	7%	(a)
Medical Insurance	1,377	1,327	50	4%	(b)
Social Security Taxes	864	776	87	10%	(a)
Workers Compensation Ins.	315	302	13	4%	(b)
Dental Insurance	85	77	8	9%	(b)
Life Insurance	20	17	3	14%	(b)
	\$4,053	\$3,792	\$261	6%	

Rates Table:	Budget
<i>Pension</i>	14.08%
<i>Social Security</i>	7.65%

(a) Function of labor cost.

Pension amount for the year provided by the City during budget development.

(b) Budget provided by the City during budget development.

Net Income
FY 2022 - May (\$000)

	Ref	Current Month			Year - To - Date		
		Budget	Actual	Variance	Budget	Actual	Variance
Operating Revenues							
Sales to Customers	p.3	3,580	3,703	123	44,296	44,361	65
Other Revenues		<u>298</u>	<u>208</u>	<u>(91)</u> (a)	<u>3,406</u>	<u>2,778</u>	<u>(628)</u> (a)
Total Operating Revenues		<u>3,878</u>	<u>3,911</u>	<u>32</u>	<u>47,702</u>	<u>47,139</u>	<u>(563)</u>
Net Power Supply							
	p.6	<u>319</u>	<u>1,331</u>	<u>(1,012)</u>	<u>21,068</u>	<u>20,439</u>	<u>629</u>
Operating Expenses							
Operating and Maintenance	p.12	1,645	1,703	(58)	18,723	17,613	1,110
Depreciation & Amortization		501	498	3	5,507	5,587	(81)
Gain/Loss on Disp of Plant		0	0	0	291	233	58
Revenue Taxes		51	50	1	516	511	5
Property Taxes Winooski One		42	41	1	463	453	10
Payment In Lieu of Taxes		<u>239</u>	<u>193</u>	<u>47</u> (b)	<u>2,631</u>	<u>2,086</u>	<u>545</u> (b)
Total Operating Expenses		<u>2,477</u>	<u>2,484</u>	<u>(7)</u>	<u>28,131</u>	<u>26,484</u>	<u>1,647</u>
Other Income and Deductions							
Interest/Investment Income		4	6	2	48	61	14
Dividends		372	360	(12)	4,021	3,969	(53)
Customer Contributions/Grant Proceeds		92	0	(92)	2,035	195	(1,840)
Other		<u>0</u>	<u>2</u>	<u>2</u>	<u>42</u>	<u>(54)</u>	<u>(97)</u>
Total Other Income & Deductions		<u>468</u>	<u>367</u>	<u>(100)</u>	<u>6,146</u>	<u>4,170</u>	<u>(1,976)</u>
Interest Expense							
		204	189	14	2,199	2,109	90
Net Income							
		<u>1,346</u>	<u>274</u>	<u>(1,073)</u>	<u>2,450</u>	<u>2,277</u>	<u>(173)</u>

Current Month:

- (a) Energy Efficiency Program cost reimbursement was higher than planned, \$82,100.
- (b) Actual includes city reappraisal.
- (c) Budget assumed customer contributions for Champlain Pkwy, \$91,100.

Year - To - Date:

- (a) Energy Efficiency Program cost reimbursement was less than planned, \$543,200.
- (b) See current month.
- (c) Budget assumed \$750,000 of ARPA funds in July and customer contributions for Shelburne Road roundabout relocation, \$616,700, UVM LCOM project, \$116,200, and Champlain Pkwy, \$546,800. Actual includes other billable and grant proceeds of \$135,300.

**Burlington Electric Department
Capital Projects - FY22**

	\$000			
	Full Year Budget	Budget	May Actual	Variance
McNeil (BED 50% Share)				
ESP Mechanical Field Rebuild	225	225	54	171
Routine Station Improvements	107	107	44	63
Backup Boiler Feed Pump/Insurance	103	103	132	(29)
Turbine Control System Upgrade/Insurance	37	37	0	37
Augers Replaced	30	30		30
Elevator Geared Equipment & Controls	25	25	0	25
Turbine Extraction Valve Actuators	20	20	2	18
Belt Fire Suppression/Insurance	17	17		17
Cooling Tower Fill Drift Eliminators	15	15		15
Disc Screen	15	15	2	13
Chemical Feed Pump Replacement/Upgrade	15	15	10	5
ESP Wire Replacement	13	13		13
Safety Valve Replacements	12	12		12
GSU Transformer	11	11		11
Analyzer Upgrades for Chemical Treatment	9	9	11	(2)
Char Ash Conveyor	10	10	25	(15)
Station Tools & Tool Boxes	7	7		7
DC Lube Oil Pump Contractor Upgrade/Insurance			2	(2)
Other	24	24	5	19 (a)
Total McNeil Plant	<u>697</u>	<u>697</u>	<u>287</u>	<u>411</u>
Hydro Production	<u>221</u>	<u>218</u>	<u>13</u>	<u>206 (a)</u>
<i>(a) Budget assumed Unit #3 bearing replacement, \$125,000. Project will not happen in this FY.</i>				
Gas Turbine	<u>98</u>	<u>98</u>	<u>23</u>	<u>76</u>
Total Production Plant	<u>1,017</u>	<u>1,014</u>	<u>322</u>	<u>692</u>
Other				
Direct Current Fast Charger (Level 3)	85	81		81
Packetized Energy	52	50		50
Public Level 2 EV Charge	33	31		31
Policy & Planning Research & Dev	21	20		20
Total Other	<u>192</u>	<u>182</u>	<u>0</u>	<u>182</u>
Transmission Plant				
VT Transco Investment	1,150	1,150		1,150 (a)
Total Transmission Plant	<u>1,150</u>	<u>1,150</u>	<u>0</u>	<u>1,150</u>

(a) Deferred.

**Burlington Electric Department
Capital Projects - FY22**

	\$000			
	Full Year Budget	Budget	May Actual	Variance
Distribution Plant-General				
Aerial				
Scarff Avenue Rebuild	701	701	675	25
Appletree Point Rebuild	258	258	126	132
1L4 P3149 to P3169 Reconductor	162	162	86	76 (a)
1L4 P3132 to P3149 Reconductor	140	140	95	46 (a)
Replace Condemned Poles	118	112	5	108 (b)
Replace Recloser 252R	48	48	0	47 (c)
227S Automation	47	47	37	10
Ferguson Ave, Wells St			39	(39) (d)
Rebuild 3L4 Long Spans			32	(32) (d)
Rebuild 1L4 Long Spans PH2			63	(63) (e)
3L1 Circ P396 to P404			6	(6)
3L1 Circ-Neu P156 to P1563			57	(57)
Total Aerial	1,474	1,468	1,221	248

- (a) Final work completed in April under budget.
 (b) Deferring inspection to future year.
 (c) Revenue bond project, changed to 234R-North Avenue.
 (d) FY21 project that was delayed. Work is now complete.
 (e) FY21 project that was delayed.

Underground				
Replace Switch (756,757,758,730-Battery/Pearl St)	204	163	9	154 (a)
Replace Switch (303,307,308,309-Main/S Prospect)	137	137	3	133 (a)
Replace UG Switch (821,401,727,349,233)			53	(53) (b)
Replace UG Switch (731,736,760,761)			16	(16) (b)
Shelburne St-Rep Sec p323-328			19	(19) (c)
Starr Farm Beach-Conv 2 ph			13	(13) (c)
Replace 234R - North Avenue			46	(46) (d)
Total Underground	341	300	159	141

- (a) Switch delivery delayed until FY23.
 (b) Additional work from FY21 project due to issues with new switch.
 (c) New project added. Work is complete.
 (d) Revenue bond project, changed from 252R. Project is complete.

Customer Driven/City Projects				
Champlain Parkway C6	644	579		579 (a)
Champlain Parkway C6 (CAFC)	(608)	(547)		(547) (a)
UVM LCOM Project (Larner College of Medicine)	391	391	381	9
UVM LCOM Project (CAFC)	(116)	(116)		(116)
UVM Athletic Facility	101	101	17	84
Shelburne St Roundabout Relocation	630	630	316	315
Shelburne St Roundabout Relocation (CAFC)	(617)	(617)		(617)
Total Underground	425	421	714	(293)

- (a) Project is delayed and not anticipated to impact FY22.

**Burlington Electric Department
Capital Projects - FY22**

	\$000			
	Full Year Budget	Budget	May Actual	Variance
Other				
SCADA Networking Upgrade/Firewall Replacement	296	296	144	152
Distribution Transformers	194	194	406	(212)
SCADA Network Switches Replacement	98	98		98
Field Device Network Upgrades	67	67	21	45
Communication Equipment Emergency Repair	27	27	2	25
SCADA Servers Virtualization	0		6	(6)
Other			28	(28)
Total Other	682	682	607	74
Total Distribution Plant-General	2,922	2,871	2,702	170
Distribution Plant - Blanket				
Lighting	159	151	188	(38)
Lighting (Rebate)	(6)	(5)		(5)
Underground	194	172	211	(39)
Underground (CAFC)			(42)	42
Aerial	106	97	73	24
Aerial (CAFC)			(17)	17
Meters	125	123	22	100
Gas Detectors	4	4	4	(0)
Tools & Equipment - Distribution/Technicians	30	28	22	5
Substation Maintenance	16	16		16
Replace Corroded Vista CT's/PT's	20	20	5	15
Substation-Temperature Alarms	8	8		8
Total Distribution Plant - Blanket	655	612	468	145
Total Distribution Plant	3,577	3,484	3,169	314

**Burlington Electric Department
Capital Projects - FY22**

	\$000			
	Full Year Budget	Budget	May Actual	Variance
General Plant				
Computer Equipment/Software	1,806	1,643	863	780 (a)
Vehicle Replacement	165	165	0	165 (b)
Buildings & Grounds	55	55	33	22 (c)
Other	8	8	0	8 (d)
Total General Plant	<u>2,034</u>	<u>1,871</u>	<u>896</u>	<u>975</u>

(a) Budget includes IT Forward, \$1,399,500, Lake Street Network switch replacement, \$37,000, OpenWay upgrade, \$24,600 and Pole Mount Routers, \$135,100. Actual includes IT Forward, \$751,500, Shared Data Center, \$9,400 and Pole Mount Routers, \$13,700.

(b) Budget assumed new electric bucket truck with a large portion covered by a grant. Periodic payments were assumed in July, January, March and May. Delivery has been delayed until FY24.

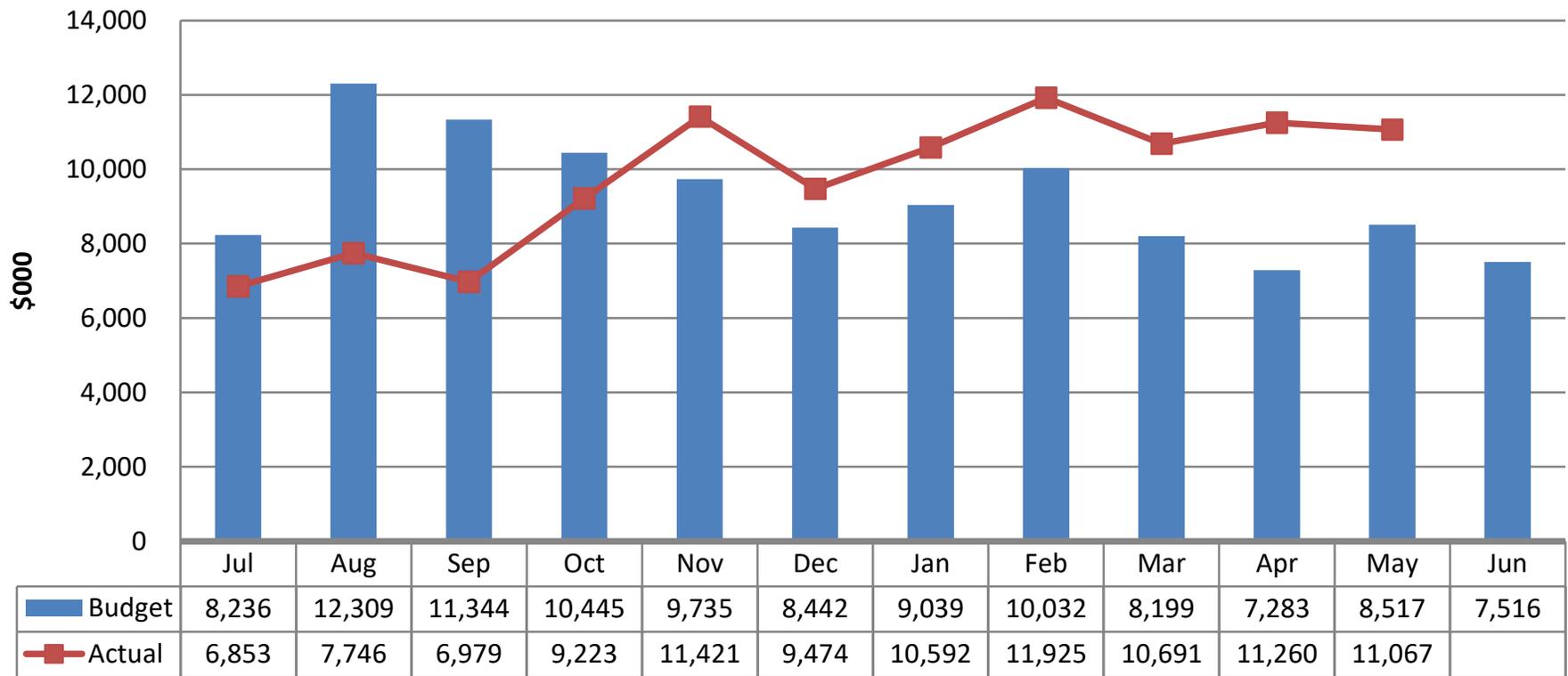
(c) Budget includes fence for solar array, \$19,000, Dispatch AC, \$14,000, security cameras, \$13,000, sign replacements, \$5,000 and ID printer, \$4,000. Actual includes dispatch AC relocation, new heat pump at GT for dispatch, ID printer replacement and chair for system operations. Fence for solar array has been delayed to FY23.

(d) Budget includes training yard materials & AED purchase for Pine Street.

Sub-Total Plant	<u>\$7,970</u>	<u>\$7,701</u>	<u>\$4,388</u>	<u>\$3,313</u>
Add: CAFC* reclass to "Other Income"	1,346	1,285	59	1,226
Total Plant	<u><u>\$9,316</u></u>	<u><u>\$8,986</u></u>	<u><u>\$4,447</u></u>	<u><u>\$4,539</u></u>

* Customer Advances (Contributions) for Construction.

Operating Cash - FY 2022 Monthly Ending Balance



BURLINGTON ELECTRIC DEPARTMENT 2022–23 STRATEGIC DIRECTION

MISSION

To serve the energy needs of our customers in a safe, reliable, affordable, sustainable, and socially responsible manner.

VALUES

Safety, Reliability, Community, Innovation

2030 VISION

Make Burlington a Net Zero Energy city by eliminating fossil fuel usage across the electric, thermal, and ground transportation sectors by strategically electrifying, managing demand, realizing efficiency gains, and expanding local renewable generation while increasing system resilience.

STRATEGIC OBJECTIVES

Engage Customers and Community

1. Focus on customer first-call resolution to provide exceptional customer care
2. Better educate and engage customers on our Net Zero Energy vision through all communications channels, with a focus on web and social media
3. Ensure all programs are equitable and accessible, with a priority given to low-to-moderate income, rental, Black, Indigenous, and People of Color (BIPOC), immigrant, and refugee populations
4. Evolve energy efficiency programs to drive deeper greenhouse gas emissions reductions, complement strategic electrification efforts, help manage peak demand, and improve community resilience and environmental health

5. Proactively seek customer input, including through new community ambassador program, and listen to and hear their needs and incorporate their input into program design
6. Provide website tools so that customers can evaluate both cost and carbon savings from heat pump technology installations

Strengthen Reliability

1. Maintain five-year Distribution System and Generation construction plans to accommodate potential load increases due to the Net Zero Energy goals, and design and construct projects to continue to improve safety, reliability, and efficiency
2. Continue to follow maintenance plans for McNeil Generating Station, Winooski One Hydro, Gas Turbine, and the Distribution System
3. Take steps to ensure reliable operations through staff succession planning
4. Ensure consistent fuel supply availability at McNeil based on annual operational strategy and procurement procedures
5. Implement Outage Management System (OMS) and grid analytics to improve response to system outages, system reliability, and efficiency

Invest in our People, Processes, and Technology

1. Attract, develop, and retain a diverse workforce with the knowledge, skills, and ability to support BED's Net Zero vision and strategic objectives
2. Develop a culture of integrity, safety, inclusion, innovation, teamwork, and continuous learning and improvement
3. Continually improve internal processes to design and deliver innovative programs and services, maximize operational efficiency and effectiveness, and optimize use of data to inform decision-making
4. Plan and invest in the technology infrastructure necessary to support BED's mission, vision, and strategic priorities, including multi-year replacement of core business systems
5. Implement remote work flexibility, as permitted under City policy, to lead by example in reducing vehicle miles traveled and emissions

Innovate to Reach Net Zero Energy

1. Advance district energy, battery storage projects, and local renewable energy production including customer-owned and community-based projects
2. Improve and expand automated demand response capability, with focus on EV charging and thermal, and implement appropriate end-use technologies to manage loads
3. Advance additional dynamic and creative rates to achieve Net Zero Energy goal
4. Continue to track and report to the community on progress toward the Net Zero Energy Roadmap goal
5. Provide clean and affordable transportation fuel through renewable electricity, and invest in and encourage use of the necessary infrastructure to serve customers across all modes of transportation, including electric bikes, electric vehicles, and electric transit buses
6. Actively participate in City policy processes aimed at reducing greenhouse gas emissions in the ground transportation and building sectors

7. Build and maximize use of partnerships that provide unique value and opportunities to make progress toward Net Zero Energy at a more rapid pace and greater scale
8. Maintain and invest in quality facilities and use them to pilot and showcase new technologies that advance Net Zero Energy

Manage Budget and Risks Responsibly

1. Create financially responsible and sustainable budgets that balance the need for stable rates, investment in core infrastructure, and strong credit rating factors
2. Develop and maintain a sustainable debt financing plan for Net Zero Energy to support electrification while mitigating upward rate pressure
3. Ensure timely and diligent compliance with risk, safety, environmental, and other legal and regulatory standards
4. Efficiently and effectively manage procurement of goods and services
5. Mitigate cybersecurity risk through awareness, assessment, policy, and best practices

May __, 2022

Via ePUC

Holly Anderson, Clerk
Vermont Public Utility Commission
112 State Street, 4th Floor
Montpelier, VT 05620-2701

Re: VHFA Comments in Support of WRAP Tariff

The Vermont Housing Finance Agency (“VHFA”) is pleased to submit the following comments to the Vermont Public Utility Commission (the “Commission”) in support of the Weatherization Repayment Assistance Program Tariff (the “WRAP Tariff”) filed by [UTILITY] on [DATE] in the above-referenced case. The comments that follow will first provide an overview of VHFA’s role in developing the Weatherization Repayment Assistance Program (“WRAP” or the “Program”), and then provide a summary of certain key features of the Program. The Program elements are outlined in more detail on Attachment A to this document, and a tenant-consent form is provided as Attachment B. As stated in the [UTILITY] filing, VHFA would be pleased to provide more information on the Program in a workshop setting if the Commission determines it would be helpful.

I. VHFA’S ROLE IN DEVELOPING THE PROGRAM

With the passage of Act 74 of 2021, the Legislature appropriated \$9,000,000 to VHFA to develop a program to promote housing weatherization statewide, including through the use of “on-bill to-the-meter billing.”¹ The Legislature also expanded VHFA’s powers to include the authority to “develop a program to finance and promote housing weatherization using funds appropriated by the State” along with funds from other sources, “giving priority to programs benefiting persons and families at or below 120 percent of the median income with high energy burdens.”²

The Legislature took extensive testimony on VHFA’s proposal to work with the distribution utilities (the “DUs”) and the energy efficiency utilities (the “EEUs”) to use a tariff model for the WRAP pilot. VHFA’s testimony featured prominently in the lead up to the passage of Act 74, but also continued into the 2022 legislative session. Specifically, VHFA’s Executive Director provided detailed testimony this year in connection with Act 83 on its ongoing efforts to develop the WRAP Tariff for the DUs to file with the Commission for regulatory approval. A summary of the legislative history is provided as Attachment C. Acts 74 and 83 represent part of the General Assembly’s ongoing efforts to advance the State’s energy policy under 30 V.S.A. § 209a to deploy efficiency measures designed to help meet Vermont’s energy needs in a manner that is adequate, reliable, secure, sustainable, and affordable.³

As a result of the legislative directives in Acts 74 and 83, VHFA is spearheading efforts to develop a tariff-based Program to help low-income Vermonters weatherize their homes. VHFA has worked collaboratively with the Department of Public Service (the “Department”), the DUs, and the EEUs in constructing the Program. The overarching goal of these efforts is to make weatherization more accessible to customer groups that have

¹ Act 74, Sec. G600(b)(4). Act 74 was amended by Act 83 of 2022 to change the source of Program funding from APA funds to General Funds. See Act 83, Sec. 69(a).

² Act 74, Sec. E.802; 10 V.S.A. § 621(23).

³ 30 V.S.A. § 209a(1)-(2).

traditionally been difficult to reach, such as renters, customers with poor credit, and low-to-moderate income customers. As explained in more detail below, the Program is a “home grown” variation on the *Pay As You Save*® (“PAYS®”) model that has been successfully deployed in other states to reach these customer groups. VHFA understands that, just last year, the Commission “encourage[d] EVT’s collaborative work with the distribution utilities to develop a pay-as-you-save program, a form of on-bill financing for efficiency projects, in order to improve access for low- and moderate-income customers.”⁴

II. PROGRAM GOALS AND OVERVIEW

As stated above, the primary objective of the Program is to assist more low-to-moderate income households in undertaking and enjoying the benefits of weatherization. These benefits include lower net-energy costs, increased levels of general comfort, decreased health-related stress factors, and reduced greenhouse gas emissions. The summary below points out challenges with reaching low-income households, and then highlights certain key features of the Program.

Challenges

Several factors have traditionally limited the number of Vermont households who pursue weatherization. These factors include high upfront costs, limited access to financing, and the long period of time to achieve complete payback on projects. WRAP is designed to overcome these barriers by using an on-bill financing mechanism that is attached to the customer’s meter.

On-bill Financing

Under the Program, a customer can pursue a weatherization project and pay for a portion of project costs over time via a surcharge on their monthly electric or natural gas utility bill. This approach is intended to overcome key barriers in the following ways:

- *High upfront costs* – WRAP is a form of financing that, when combined with existing EEU incentives and/or new VHFA incentives, can greatly reduce or eliminate the upfront cost a household must pay for a weatherization project.
- *Limited access to financing* – As opposed to a traditional loan to an individual, WRAP funding is considered an investment tied to the utility meter. This means that traditional lender underwriting standards such as credit scores, debt-to-income ratios, and loan-to-value ratios are not utilized in approving projects. Since repayment is linked to the utility bill payment, the key underwriting standard is for a customer to have a clean bill-payment history with Vermont utilities for the 12-months preceding Program enrollment.
- *Multi-year payback* – Weatherization projects may have a payback period of 10 years or more, which is typically a barrier if a customer (and particularly a renter) does not expect to occupy the residence for that length of time. Since WRAP funding is tied to the meter, the customer is only obligated to pay the surcharge for the length of time that the customer occupies the property. Once a customer moves, that customer is no longer obligated to make any additional payments. Instead, the new occupant(s) of the

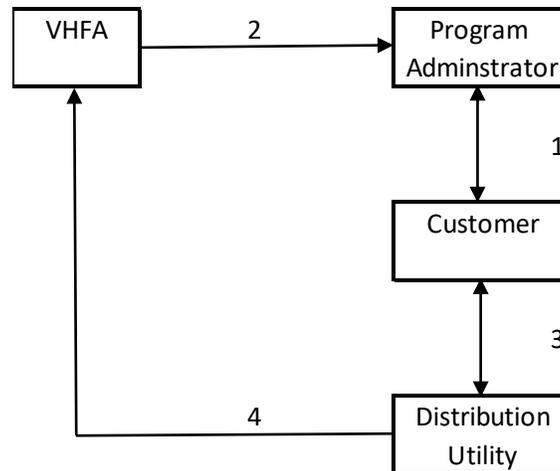
⁴ *Energy Efficiency Utility 2021-2023 Triennial Plans*, Case No. 20-3536-INV, Order of 01/07/21 at 3.

property will pay the surcharge for the time they occupy the property and benefit from having a more comfortable, energy efficient environment.

Program Delivery

The Program will be delivered to a customer through three different entities as shown in the schematic below:

WRAP PROCESS WORKFLOW



- *Step 1: Evaluation and Project Completion*

To start, the customer contacts a WRAP Program Administrator from one of the EEU—Efficiency Vermont (“EVT”), Vermont Gas Systems, Inc. (“VGS”), or Burlington Electric Department (“BED”)—based on the location of the customer’s residence. The Program Administrator helps the customer apply for the Program, manage the energy audit, review and approve the proposed measures, estimate the energy savings and monthly WRAP charge, and coordinate with a qualified weatherization contractor. A key element of the work will involve verifying the results of the weatherization project using a blower door test.

- *Step 2: Funding Request*

Once a project is complete, the Program Administrator submits a funding request to VHFA detailing the cost of the project, the results of VHFA’s screening tool confirming the project meets the positive cash flow and repayment term requirements, and confirming the blower door test results. Upon approval of the Funding Request, VHFA will provide the WRAP Funding for the project to the Program Administrator to pay the contractor.

- *Step 3: WRAP Charge*

VHFA requests that the appropriate DU setup a WRAP account for the customer in the billing system, detailing the monthly WRAP Charge and number of months the charge should be collected from the meter. Each month, VHFA provides detailed account information (e.g., amount of WRAP funding, monthly payment, number of scheduled payments, and number of payments remaining) to the DU so that staff can respond to billing-related customer inquiries.

- *Step 4: Remittance*

Once the DU receives a customer payment, the DU remits the WRAP charge, less the DU tariffed billing fee, to VHFA. It is important to note that the WRAP charge is subordinate to all other charges on the customer's bill. In the case of partial or non-payment by the customer, the DU will only remit the amount of payment that is available to VHFA. In cases of non-payment for a period of 12 months, VHFA will (i) classify the obligation as bad debt, (ii) notify the DU to remove the charge from the billing system, and (iii) cover the loss.

Consumer Protection

WRAP's targeted customer segment is low-to-moderate income households that can least afford excessive or inefficient financing costs. Consequently, the Program has been designed to incorporate important consumer protection measures that include:

- *Positive Cash Flow* – The estimated annual energy savings from the weatherization measures must exceed the annual cost of the WRAP repayment by at least 10 percent. It is important to note, however, that the savings are not guaranteed because factors such as future energy prices and changes in consumer behavior are outside of the Program's control.
 - Energy savings will be modeled by the Program Administrators using methods approved by the Department. Step one requires Building Performance Institute ("BPI") certified auditors to collect property-specific data and develop a list of proposed measures. Step two involves inputting the data and current fuel prices into energy modeling software to estimate annual savings. VGS and BED will model WRAP projects utilizing the methodology and software they currently employ for weatherization programs. EVT is proposing to use the Hancock software to model energy savings, which is the Department-approved method used under the Weatherization Assistance Program.
- *Term of Obligation* – Based on the estimated savings, the term of the WRAP surcharge will be the lesser of 15 years or 90% of the project's useful life. This is to protect against customers paying for benefits they may no longer be experiencing.
- *Protection Against Prior Non-payment* – VHFA will bear the loss of all non-payments. If a prior occupant missed four payments before the new occupant moved in, the new occupant is not obligated to make-up the four missed payments; rather, new occupants will only be required to cover the remaining scheduled payments for the term of their tenancy.
- *Leverage Proven Programs* – WRAP will leverage the existing weatherization programs run by the EEUs, including: requiring BPI-certified energy auditors, running Department-approved energy modeling software, and requiring the use of contractors from a pool of pre-approved vendors.
- *Commission and Department Review* – WRAP is a financing product that will compete with traditional bank and credit union loans. However, because WRAP utilizes a tariff, the Commission and the Department are able to review and influence aspects of the Program, particularly the energy saving methodologies, to a far greater extent than commercial loan programs.

Eligible Participants

For the pilot, single family residences and apartment buildings with up to four units may participate. Rental properties are also eligible; however, if the tenant pays the utility bill, the tenant must sign a specific form of consent (copy attached as Attachment B) to pay the WRAP charge during the tenancy.

Also for the pilot, only multi-unit buildings with a master meter in the building owner's name may participate. This restriction is due to constraints that include (i) the challenges of modeling energy savings for individual units in apartment buildings and (ii) the Program's positive cash flow requirement.

Eligible Measures

The Legislature appropriated funding to VHFA specifically to implement a weatherization program, therefore all WRAP projects must include weatherization measures. These measures are defined as those that are eligible for efficiency utility weatherization incentives.

Tier III measures, such as installing heat pumps and advanced wood heating, are also permitted in conjunction with the weatherization measures. However, the combined measures (weatherization and Tier III) are subject to meeting the Program's positive net cash flow and repayment term requirements.

For the pilot, plug-in appliances and electric-vehicle systems are not considered eligible measures.

Costs

The surcharge placed on the monthly utility bill pursuant to the proposed WRAP Tariff will be comprised of four components:

- (1) *Capital Recovery* – This is a return, on a dollar-for-dollar basis, of the WRAP funding amount (i.e., the project cost minus available incentives) used to cover actual project costs.
- (2) *Capital Cost* – This is an annual interest charge of no more than 2 percent on the WRAP funding amount.
- (3) *DU Billing Fee* – This is a monthly fixed fee (\$/bill) the DU will charge to cover its cost for providing billing services as set forth in the WRAP Tariff.
- (4) *VHFA Administration Fee* – This is a monthly fixed fee (\$/bill) VHFA will charge to cover its cost of administering the Program.

Timing

VHFA clearly understands the importance of the Commission conducting a thorough review of the WRAP tariff and will make itself available to address any questions or information requests in support of that effort. We did want to note that concurrently with the tariff filing, the EEU's and VHFA are also in the process of applying for federal dollars that will directly fund WRAP projects and further increase the impact of State incentive funds.

A key consideration of the federal programs is when WRAP will be ready to deploy the funding. The impact of this funding could be material to VT, and we therefore feel it is important to note this potential as the Commission conducts its review.

Conclusion

VHFA would be pleased to address any questions or concerns regarding the Program at a workshop held in concert with the DUs and the Program Administrators, if helpful to the Commission. Attachment A to this document includes key elements of the Program design, Attachment B includes the legislative history associated with the Program, and Attachment C is a copy of the form of consent to be used for tenants where the building owner signs a Participation Agreement.

ATTACHMENT A – WRAP PROGRAM DESIGN

Issue	Comment
Pilot Tariff Structure	<ul style="list-style-type: none"> • The Weatherization Repayment Assistance Pilot (WRAP) will use a common, statewide tariff to which each Distribution Utility (DU) can elect to opt-in at its sole discretion. • The Pilot will run for a two-year period or until funding is used, whichever occurs first.
Operating Targets	<ul style="list-style-type: none"> • Finance 1,000 household weatherization projects (“Wx”) during Pilot. • A minimum of 75% of funding to be allocated to Income Eligible households (<120% AMI).
Tariff Sponsor(s)	<ul style="list-style-type: none"> • Participating distribution utilities
Program Administrators (PA)	<ul style="list-style-type: none"> • The three VT EEU’s—EVT, VGS, and BED—will administer the Program within each of their respective territories.
Payment Processors	<ul style="list-style-type: none"> • DUs who opt-in to participate in the Pilot will be responsible for including the WRAP Charge on the bill, as well as for payment collection and forwarding required payments to VHFA for all WRAP funded projects within a DU’s territory.
Program Participation Eligibility	<ul style="list-style-type: none"> • Only residential accounts will be included in the Pilot. • Single family homes are permitted. • Multi-family buildings of 4 units or less are permitted provided the building has a single meter in the owner’s name. • Renters may initiate process, but the building owner must execute the Participation Agreement. • Tenant will sign a consent form (see Attachment C) agreeing to pay the WRAP charge for the period of their tenancy. • Rolling enrollment is permitted for the term of the Pilot. • The tariff is fuel agnostic (type of fuel(s) used will not prevent a building from participating). • Manufactured homes and condos are not included in the Pilot.
Customer Obligations	<ul style="list-style-type: none"> • A participating customer must sign a Participation Agreement permitting a PA/DU to install the proposed Wx/efficiency measures and which explains the customer’s rights and obligations including details on repayment terms.

Issue	Comment
Qualified Measures	<ul style="list-style-type: none"> • Qualified Measures include: • Wx measures as specified in the Home Performance with Energy Star program that are eligible for VT utility incentives. • Heat pump installations including ductless, centrally ducted and heat pump hot water heaters that are eligible for VT utility incentives. • Advanced Wood Heat systems that are eligible for VT utility incentives. • All projects must include equipment purchased and installed through PA/DU approved vendors and contractors. Customer sourced and/or installed equipment is not eligible. • A project must include Wx measures. Stand-alone electrification measures are not permitted under the Pilot. • NOTE: Plug-in appliances and EV systems are <u>not</u> qualified measures.
Tariff Funding Amounts	<ul style="list-style-type: none"> • Minimum project funding amount - \$2,000. • Maximum project funding amount - \$20,000.
Targeted Incentives	<ul style="list-style-type: none"> • During term of Pilot, VHFA will provide up to \$1,500 in incentives for a WRAP-funded project for Income Eligible households. • Participants in the Pilot must be eligible to receive the same rebates and incentives available to customers who install similar measures outside the Pilot.
Intake Data Collection	<ul style="list-style-type: none"> • Occupancy type (own/rent) • # of Occupants • Housing type – single unit, multi unit, condo, manufactured • Building square footage • Energy Usage - \$ and quantity • Fuel type • Household income • Demographic info – customer to opt-in • Purpose of inquiry – heating, cooling, other
Underwriting	<ul style="list-style-type: none"> • Projects must generate a minimum annual 10% positive cash flow for a customer based off calculated savings, e.g. the annual WRAP Charge can be no more that 90% of calculated annual energy (\$) savings. • Term of WRAP Charge from combined savings of funded measures will be the lesser of (i) 15 years or (ii) 90% of the measures’ useful life. • Customer must have positive bill payment history for 12 months with VT utilities. Customers with less than 12 months of VT bill payment history are ineligible.
Energy Audit	<ul style="list-style-type: none"> • An onsite Energy Audit to be performed by PA approved vendors/contractors, including blower door test.

Issue	Comment
Savings Estimates	<ul style="list-style-type: none"> For each individual project, the PA will estimate dollar and energy savings based on data provided from the Energy Audit following their current practice under the then in effect incentive and Tier III programs.
Fuel Price Indices	<ul style="list-style-type: none"> To calculate energy (\$) savings the following fuel price indices will be used: <ul style="list-style-type: none"> Natural Gas – the then effect retail rate permitted under the VGS tariff. Kerosene, No. 2 Fuel Oil and Propane – the rolling 12-month average of prices as reported in the VT Dept of Public Service’s monthly Heating Fuel Price Survey. Wood - TBD
WRAP Charge	<ul style="list-style-type: none"> The amount billed each month to the customer at an upgraded location during the cost-recovery term. The WRAP Charge includes recovery of the cost of the upgrade, any Commission-approved program operation costs (DU and VHFA admin fees) and an annual Capital Charge up to 2 percent. Participating DUs may charge a one-time set-up fee for each new account and a flat, monthly \$/bill payment processing fee. VHFA may charge a flat, monthly \$/bill admin fee. The WRAP Charge will be calculated by the PA using a VHFA provided model.
Customer Copayment	<ul style="list-style-type: none"> For projects that do not meet the underwriting standards, customers are permitted to fund a portion of project costs thus buying down the amount of the WRAP funding to satisfy the underwriting standards.
Savings Guarantee	<ul style="list-style-type: none"> Tariff does not include an explicit savings guarantee. Savings are based on calculated savings at time PA approves a project. All projects subject to Dept of Public Service audit as is current practice.
Cost Recovery Term	<ul style="list-style-type: none"> For each project, the repayment term is based on the shortest repayment period that meets all tariff requirements.
Flow of Funds	<ul style="list-style-type: none"> Project Funding <ul style="list-style-type: none"> VHFA to fund PA or DU (not customer) per PA’s Funding Request. PA or DU to pay contractor. Payment Processing <ul style="list-style-type: none"> DUs to include WRAP Charge on first monthly bill following project completion. VHFA to provide DU monthly notification of new WRAP Charge Accounts. DU to forward WRAP Charge payments to VHFA monthly.

Issue	Comment
Funding Request	<ul style="list-style-type: none"> • On a semi-monthly basis each PA will submit a Funding Request to VHFA for each project it has approved and for which the measures have been or will be implemented. • The request will include: <ol style="list-style-type: none"> 1. Summary of key information collected on the customer and project. 2. Name of contractor(s) used and PA's confirmation contractor(s) have valid BPI certification. 3. List of measures performed. 4. Results of blower door test and contractor provided certification that measures have been completed to applicable standards. 5. Summary of savings (\$ and emissions) for each measure and on a consolidated basis. • Requested funding amount and terms of funding – term, monthly WRAP Charge, etc.
Ownership of Upgrade Measures	<ul style="list-style-type: none"> • VHFA will own all upgrade measures until WRAP Charge balance is paid in full. • Upon WRAP Charge pay off, ownership of upgrade measures will revert to the then-current building owner. • Property liens are not permitted under tariff.
Transferability of Property	<ul style="list-style-type: none"> • A property with an outstanding WRAP Charge balance may be transferred subject to disclosure of the WRAP Charge to the new occupant. • Disclosure of WRAP Charge to be filed with the property records for each project location and made available upon property transfer. • Disclosure to include: notice utility has installed efficiency upgrades designed to reduce utility bills, a description of upgrades, monthly program charges, savings estimates and rights and obligations of customer and property owner.
Disclosure to Renters	<ul style="list-style-type: none"> • Notice of WRAP Charge to be provided by building owner, or its agent, to tenants. • Tenants need to provide written consent to accept WRAP Charge requirements before taking occupancy.
Non-payment	<ul style="list-style-type: none"> • WRAP Charge non-payment will be processed like any other utility bill non-payment. • Non-payment notice procedures as per current DU practice. • Accounts with non-payment will be classified as Bad Debt after twelve months.
Disconnection	<ul style="list-style-type: none"> • Utility service disconnect is not permitted for non-payment of the WRAP Charge.

Issue	Comment
Loan Loss Reserve	<ul style="list-style-type: none"> • VHFA may establish, maintain and manage a Loan Loss Reserve for the life of WRAP projects that are initiated during the two-year Pilot. • The Loan Loss Reserve may be used to cover non-payment or partial payment of the monthly WRAP Charge. • VHFA will have sole discretion in determining the use of the Loan Loss Reserve. • In all cases, VHFA will be financially responsible for non-payment of WRAP Charges. • DUs will not have financial exposure to non-payment of the WRAP Charge. VHFA will reimburse a DU's monthly billing fee during periods of non-payment.
Prepayment	<ul style="list-style-type: none"> • Full prepayment of the WRAP Charge is permitted under the tariff. • Partial prepayment is not permitted.
Payment Priority	<ul style="list-style-type: none"> • The WRAP Charge portion of a monthly bill will be subordinated to all other charges on the bill. • Partial payments will first be applied to all other components of the utility bill until paid in full, then remaining amounts will be applied to the WRAP Charge balance.
Reporting Requirements	<ul style="list-style-type: none"> • VHFA to provide participating DUs a monthly Reconciliation Report detailing, for each WRAP account, beginning and current WRAP balance, # of payments made and remaining, maturity date and payoff amount. • PAs to report to VHFA monthly, quarterly and annually on key program data – number of audits, projects completed, cumulative funding (incentives and WRAP), cumulative savings (\$ and MMBtu) and emission reductions. <p>PAs to report to the Department monthly, quarterly and annually on key Program metrics.</p>
Tariff EV&M Metrics	<ul style="list-style-type: none"> • Participation rates • Characteristics of participating buildings • Conversion rate from audit to upgrade • Demographic information • Total and per building energy savings • Total and per building carbon reduction • Total project cost per upgraded building • Cost per mmbtu saved

Issue	Comment
Program Agreements	<ul style="list-style-type: none"> • PUC-approved WRAP Tariff for each participating DU. • Participation Agreement between a PA and participating customer(s). • Program Administration Agreement between the PAs and VHFA • Billing Agreement between participating DUs and VHFA.
Program Costs	<ul style="list-style-type: none"> • During the Pilot, participating EEUs and DUs are entitled to full cost recovery of Program costs that are not reimbursed by VHFA or covered with bill processing fees.

ATTACHMENT B: FORM OF CONSENT

Tenant's Consent

I am a tenant at the property located at [Address] (the "Property") and have reviewed the Participant Agreement dated _____, 20__ (the "Agreement") by and between [Program Administrator Name] ("Administrator") and [Participant name or names] ("Participant"), related to the Property, which is owned by Participant and leased to me. Capitalized terms used but not defined herein have the definitions given in the Agreement.

I acknowledge and agree that the Project described in the Agreement provides energy efficiency measures for the Property that are beneficial to me, in that they are estimated to result in savings on my utility bill for the Property.

I understand that: (i) the energy efficiency improvements performed as part of the Project will be put into effect and used for the expected life of the improvements at the Property, (ii) the Project energy efficiency improvements are estimated to result in the financial savings per year set forth on Exhibit A, but energy costs and savings may fluctuate from month to month, resulting in less or no savings in some months (for example, in the summer, energy savings may be less when I am not heating my home), (iii) **the projected savings are estimates only and not a guaranty of any specific monthly or annual savings**, (iv) that I have no claim to the value of the energy efficiency improvements, which belong to VHFA until such time as all WRAP Charges have been paid in full and then will belong to the Participant; and (v) that the projected savings are based on current fuel prices and current energy use patterns, which may change over time and result in lower (or no) savings.

I acknowledge and agree that by signing this Consent, I am agreeing to (i) allow Participant to have the Project completed and allow Participant and Administrator and their respective representatives to inspect the work being completed on the Project and the energy efficiency improvements at any time, upon reasonable notice, (ii) use the energy efficiency improvements for their respective useful lives, (iii) pay a monthly WRAP Charge of \$[] on my bill with Utility until such time as the Total WRAP Cost has been paid in full (or I move out of the Property), and (iv) not remove or damage the energy efficiency improvements.

By signing this Consent, I give Administrator, VHFA, Utility and their respective representatives express permission to contact me using the information I have provided in this Consent and agree that each of VHFA, Administrator, Utility, and others may make reasonable use of any information in its possession concerning the Project. Such use may include, but is not limited to, general energy usage for the purpose of evaluation and reporting.

I understand that neither Administrator nor Utility is acting as a lender and neither have any obligation to me regarding the terms or disclosures relating to the WRAP funds. I understand that Utility will begin billing the monthly amount on my utility bill following Utility's receipt of notice from VHFA that the Project has been completed, provided it is received at least 10 days in advance of my next billing cycle. I further understand that billing will stop should my service at the Property be terminated for any reason and that it is my responsibility to notify Utility of my intent to stop service. I hereby consent to have Utility check my Utility account payment history and release my billing and payment information to VHFA. I understand that my Utility billing cycle may change and my first bill may be for less than a full month as I transition to the new billing cycle. I hereby consent to, acknowledge and agree to the foregoing.

[Tenant Name]

Address for notice purposes:

[Address]

ATTACHMENT C: LEGISLATIVE HISTORY

January 28, 2021: Senate Committee on Natural Resources & Energy

- Maura Collins, Executive Director, VHFA – Testified on weatherization.

February 16, 2021: House Committee on Energy & Technology

- Maura Collins, VHFA – Presented proposal for VHFA to create weatherization program, which covered a number of topics that included “to-the-meter tariffs” and “on-bill financing.” The presentation is included as [Appendix A](#).

February 17, 2021: Senate Committee on Natural Resources & Energy

- Maura Collins, VHFA – Submitted testimony but not on the tariff.
- The Committee also took testimony from a group of DUs and EEUs regarding “on-bill tariffs.” The meeting agenda is provided as [Appendix B](#).

February 26, 2021: Senate Committee on Natural Resources & Energy

- Maura Collins, VHFA – Testified on the topic of “Coordination Amongst Market-Based Weatherization Participants” and mentioned on-bill tariffs as a “promising model” according to presentation notes. The meeting agenda is provided as [Appendix C](#).

March 10, 2021:

Senate Committee on Natural Resources & Energy

- Tammy Agard, EEtility and Marshall Chery, Roanoke Electric Coop. – Testified on the topic of “Utilities Implementing To-the-Meter Billing for Weatherization.” The meeting agenda is provided as [Appendix D](#).
- Maura Collins, VHFA and Rebecca Foster, Efficiency Vermont – Submitted joint memorandum that addressed, among other topics, VHFA partnering with the EEUs, the DUs, and others “to pilot financing models with the goal of bringing weatherization to scale.” Page four of the memo discusses a pilot to evaluate an “on-bill (and/or to-the-meter)” model. The memo is provided as [Appendix E](#).

March 18, 2021: Senate Committee on Natural Resources & Energy

- Melissa Bailey, VPPSA – Submitted testimony addressing “To-the-Meter Tariffs.” A copy of Ms. Bailey’s testimony is provided as [Appendix F](#).

April 14, 2021: Senate Committee on Natural Resources & Energy

- Maura Collins, VHFA – Testified on VHFA’s proposal to partner with the EEUs and other stakeholders to “develop a program to provide on bill repayment for weatherization work that goes to the meter.” A copy of Ms. Collins’s script for her testimony is provided as [Appendix G](#).

April 30, 2021: Senate Committee on Natural Resources & Energy

- Maura Collins, VHFA – Testified on Sen. Perchlik’s Amendment to S.109/H.439 and spoke directly to VHFA’s task of developing an “on-bill tariffed to-the-meter energy efficiency finance program.” A copy of Ms. Collins’s notes for the meeting is provided as [Appendix H](#).

June 8, 2021: Governor Scott signed Act 74 into law. Copied below are the two sections that directed VHFA to develop the Program:

- Sec. G.600(a)(2) CLIMATE INVESTMENTS

\$9,000,000 to the Agency of Administration to grant to the Vermont Housing Finance Agency for financial support of housing weatherization statewide. On or before January 31, 2022 and thereafter upon request from a legislative committee, the Vermont Housing Finance Agency shall issue a report to the General Assembly detailing the programs to which funds appropriated under this subdivision were provided. *The report shall include the results of its investigations into on-bill to-the-meter billing and other methods to provide weatherization financing* (emphasis added).

- Sec. E.802 10 V.S.A. § 621 is amended to read:

§ 621. GENERAL POWERS AND DUTIES

The Agency shall have all powers necessary and convenient to carry out and effectuate the purposes and provisions of this chapter, including ... the power to:

(23) develop a program to finance and promote housing weatherization using funds appropriated by the State, funds generated through issuing bonds, notes and other obligations of the Agency, and funds from other sources obtained through grants or other arrangements, giving priority to programs benefiting persons and families at or below 120 percent of median income with high energy burdens and to programs to expand the pool of qualified weatherization contractors in the State.

December 15, 2021: House Committee on Appropriations

- Maura Collins, VHFA – Testified on need to swap appropriation for the Program from ARPA funds for General Funds. Ms. Collins also briefed the Committee on VHFA’s progress on developing the “Weatherization Repayment Assistance Program” on current efforts “to design a single tariff that—should it be approved by the Public Utilit[y] Commission—will be available to all utilities for statewide implementation.” A copy of Ms. Collins written testimony is provided as [Appendix I](#).

January 7, 2022: Senate Committee on Natural Resources & Energy

- Maura Collins, VHFA – Delivered a presentation to provide an update on the Program and WRAP Tariff. A copy of the presentation is included as [Appendix J](#).

January 15, 2022: House Committee on Energy & Technology

- The Department – Testified on the 2022 Vermont Comprehensive Energy Plan, which includes a section on the “Weatherization Repayment Assistance Pilot” and VHFA’s efforts to develop programs “through innovative, tariff-based programs.” *See* 2022 CEP at 175-176.

January 20, 2022: Senate Committee on Appropriations

- Maura Collins, VHFA – Submitted a memo with an overview of the WRAP pilot, among other materials. A copy of the excerpted memorandum is included as Appendix K.

January 25, 2022: Senate Committee on Economic Development

- Maura Collins, VHFA – Submitted Homeownership Development Pilot Proposal that also included an overview of the WRAP pilot. See Appendix K.

March 16, 2022: Governor Scott signed Act 83 into law, which changed Program funding from ARPA funds to General Funds.

- Sec. 69a. 2021 Acts and Resolves No. 74, Sec. G.600 is amended to read:

Sec. G.600(b)(4) CLIMATE ACTION INVESTMENTS

(b) \$4,500,000 \$13,500,000 in fiscal year 2022 is appropriated from the General Fund as follows:

* * *

(4) \$9,000,000 to the Agency of Administration to grant to the Vermont Housing Finance Agency for financial support of housing weatherization statewide. On or before January 31, 2022 and thereafter upon request from a legislative committee, the Vermont Housing Finance Agency shall issue a report to the General Assembly detailing the programs to which funds appropriated under this subdivision were provided. *The report shall include the results of its investigations into on-bill to-the-meter billing and other methods to provide weatherization financing* (emphasis added).

21352183.2



Weatherization Repayment Assistance Program (WRAP)

- Proposed PUC filing for pilot on-bill financing program – BED would be one of several Vermont electric and gas utilities participating
- VHFA hopes to expand this to the full state over time
- Weatherization financing for low- and moderate-income customers provided by Vermont Housing Finance Agency, using \$9M in State-appropriated funds
- Could potentially bundle to finance heat pump install along with weatherization
- Loan “follows the meter” – transferable to subsequent homeowner/tenant
- No disconnection for non-payment of the loan component of the bill



WRAP (continued)

- BED's EEU would vet projects' energy savings; VHFA would set loan terms; BED would add loan payment to bill and remit payments to VHFA
- BED compensated for cost to set up each customer (one time fee paid by VHFA) and bill each customer (monthly fee included with the loan charge on the customer's bill)
- Two-year pilot program, but loans and BED's payment processing could last up to 15 years
- See attached letter of support



Weatherization Repayment Assistance Program (WRAP)

Proposed motion:

That the Burlington Electric Commission recommend to the Board of Finance and City Council approval of the Weatherization Repayment Assistance Program (WRAP) Public Utilities' Commission filing and Distribution Utility Services Agreement between BED and VHFA, subject to legal review



ARC Industries Pilot Update

Burlington Electric Commission Meeting



7-13-2022



ARC Industries

Company Overview

- Selected company from DeltaClimateVT's 2021 cohort for BED to engage in a project
- HQ: Bridgewater, MA
- ARC = Advanced Renewable Concept
- Mission:
 - "At ARC Industries, we strive to convert our planet's power systems to a 100% renewable energy... delivering consistent reliable power to the electrical grid in all conditions."
- Product: The Orb - currently only deployed in lab
- BED's Focus:
 - Explore net metering alternative to solar
 - Support burgeoning clean technology
 - Potential to share inverters with solar



The Orb

Emissions Savings



- Offsets 1.9 tons of CO₂¹

Size



- Deploys in constrained spaces
- 8-foot tall by 6-foot diameter
- 4x greater energy density than solar

Technical



- Excellent complement to solar technology
- Cut in wind speed of <12 mph
- Patent Pending Design
- 3 kW nameplate capacity
- Weight ~ 480 lbs.

Longevity and Maintenance



- Can withstand hurricane force winds
- Projected 25+ year lifespan
- Requires virtually no maintenance
- ROI of ~5-10 years



Sources

1. EPA eGrid New England 2019 488 lbs/MWh of CO₂ - <https://www.epa.gov/egrid/power-profiler#/NEW>



Project Update

Deploying the Orb

- On 10/13/2021 BEC authorized BED to enter into a contract with ARC to deploy a wind turbine (9 months ago).
- There was difficulty locating a suitable pilot location in the City and the Airport is willing to host the pilot project.
- Amendment of the MOU between BED and the airport that allowed the solar array to be built will be needed.
- BED believes a power supply contract structure would be better aligned with the ARC project description.

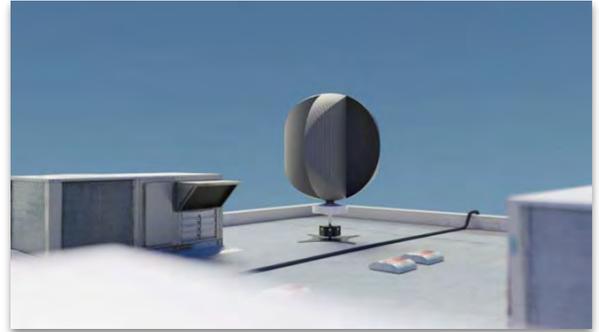


Fig 1. Example Deployment

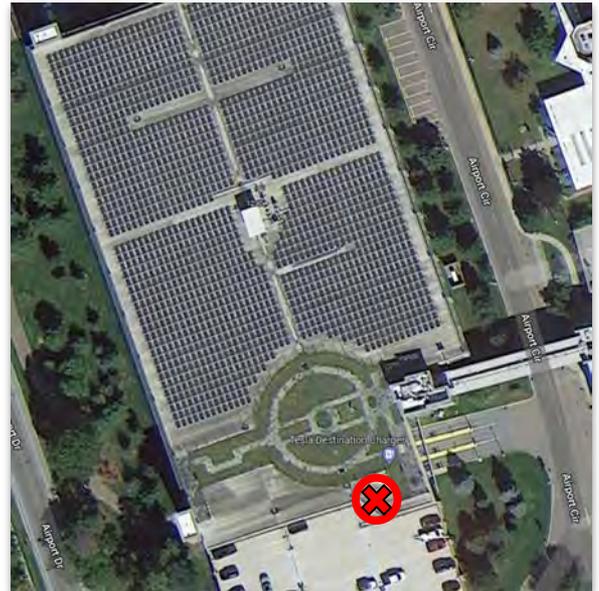


Fig 2. Proposed Site Location on Airport parking garage roof marked by "X"



Project Update (continued)

Deploying the Orb

BED has split the above contract into two Agreements:

- **Preparation Agreement (executed)**
 - Term of 1 year or less
 - Focus: site evaluation, permitting & preparation work only
 - \$4,000 maximum
- **Installation & Operation Agreement**
 - In the form of a power supply contract for the unit output and potential ownership – BED receives energy and all related products
 - BED is seeking approval to enter into this contract from the BEC
 - End of Project options remain the same:
 - Decommissioning
 - Extension or Buy-Out requiring BEC approval

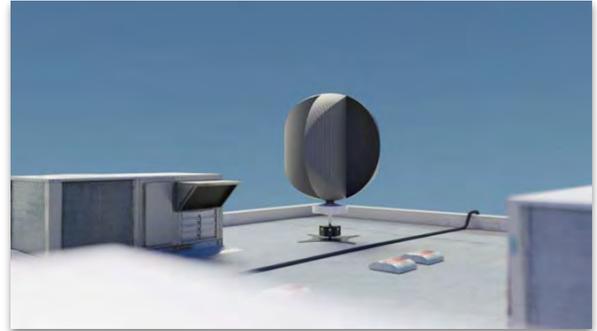


Fig 1. Example Deployment

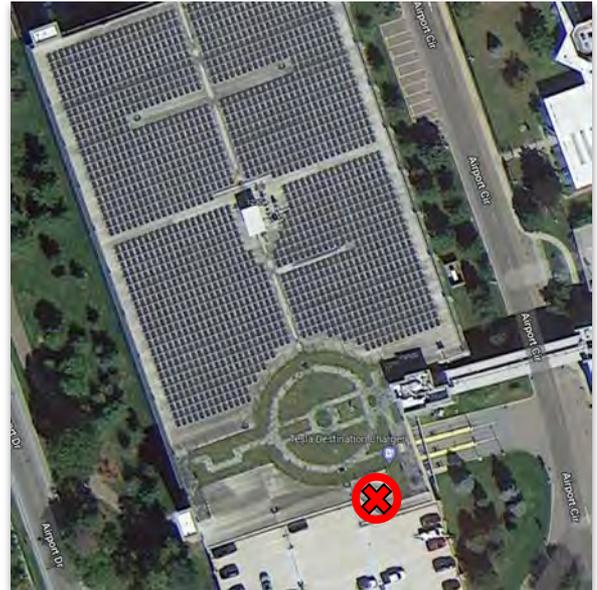


Fig 2. Proposed Site Location on Airport parking garage roof marked by "X"



Motion

Seeking approval from BEC

Motion to authorize the General Manager to enter into a contract with ARC, containing the commercial terms described herein, to install and receive power from one (1) ARC wind turbine at the airport, and to seek supporting modifications of the MOU with the airport as needed to accomplish this.