

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 (or)
Via Microsoft Teams

[+1 802-489-6254](tel:+18024896254)

Conference ID: 154 453 814#

AGENDA
Regular Meeting of the Board of Electric Commissioners
Wednesday, February 9, 2022 – 5:30 p.m.

- | | |
|--|----------------|
| 1. Agenda | 5:30 (5 min.) |
| 2. Minutes of the January 12, 2022 Meeting | 5:35 (5 min.) |
| 3. Public Forum | 5:40 (5 min.) |
| 4. Commission Corner | 5:45 (5 min.) |
| 5. GM Update (Oral Update) | 5:50 (10 min.) |
| 6. Financials: FY22 December (Discussion):
E. Stebbins-Wheelock | 6:00 (10 min.) |
| 7. Revenue Bond Resolution: (Discussion and Vote):
E. Stebbins-Wheelock | 6:10 (10 min.) |
| 8. Moran Frame Project (Expected Executive Session and Vote):
D. Springer | 6:20 (15 min.) |
| 9. Commissioners' Check-In | 6:35 (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: 154 453 814#

TABLE OF CONTENTS (for 02/09/22 meeting)

*** FYI ***

- Minutes of the January 12, 2022 Meeting
- January Monthly Report
- Dashboard
- FY22 December Financials
- Revenue Bond Resolution Documents

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: February 4, 2022
Subject: **January 2022 Highlights of Department Activities**

General Manager

- **New Incentives Announcement** – On Jan. 27th BED announced new and expanded incentives for 2022, thanking the community for making these possible through the revenue bond vote. Highlights included new programs for electric motorcycles, chainsaws, trimmers, and riding and push lawn mowers, as well as new charging station programs. In addition, we have expanded our EV and PHEV incentives, and heat pump water incentives.
- **Legislative Update** – BED has been active in legislative testimony on H. 448, containing Burlington's thermal energy Charter Change voted on last Town Meeting Day, and also testified on the Clean Heat Standard and how it would interact with Tier 3 of Vermont's Renewable Energy Standard.
- **District Energy** – We had a productive meeting with UVMCC, with follow-up scheduled for later this month. Waiting to reschedule with UVM. Still working towards wrapping up Phase 3 first quarter of 2022.
- **Synapse Roadmap Update** – We are engaged with Synapse to provide 2021 updated data for the Net Zero Energy Roadmap. Of interest will be how the transportation sector/vehicles miles traveled changed in 2021 as the economy began to reopen following the pandemic.
- **Revenue Bond** – We are moving through the process to issue the revenue bond in late Winter/early Spring, and actively seeking to move revenue bond projects authorized under the reimbursement resolution.
- **Innovation Corner** – We are seeking to highlight employee innovation throughout the year now, instead of just once a year at the Innovation Cup. Most recently, one of our lineworkers, Andrew Watson, suggested purchasing electric saws to replace gasoline-powered saws, and BED has moved forward with this initiative and recognized Andrew in our newsletter and all employee call for his leadership on this.

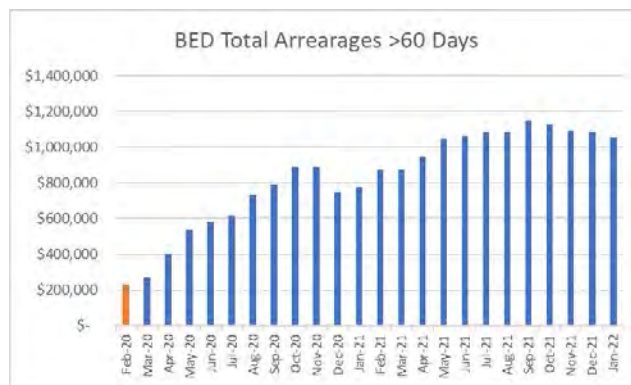
Center for Innovation - Emily Stebbins-Wheelock

- Welcomed Emily Byrne as new Director of Finance and Erica Ferland as new Director of Information Technology on January 18.
- Sponsoring development of updated Net Zero Energy peak/load forecast as basis for next IRP.
- Continued sponsorship of IT Forward implementations.
- Sponsoring internal team reviewing rebate process for efficiencies and effectiveness.

- Facilitating a white accountability group for City employees sponsored by the Racial Equity, Inclusion and Belonging (REIB) Office.

Finance & Accounting

- Calendar year-end closing and reporting.
- Began FY2022 budget development.
- Preparing for 2022 revenue bond issuance, with debt advisors, bond counsel, and City finance staff.
- Submitted proposal for changing accounting for RECs and Tier 3 to auditors.
- Assessing new GASB Standard 87-Leases for implementation in FY22.
- Supporting EEU administrative cost review.
- Monitoring receivables in response to COVID19: as of January 31, 2022, BED's total non-current receivables had decreased \$18,304 or 1.3% compared to the end of December 2021. Arrearages >60 days were \$1,055,125.



Billing & Analytics

- Began development of the sales, revenues, peak demand, and energy forecasts for FY2023-2027.
- Functional lead for MDMS replacement and team member on Customer Portal replacement projects, with work on data integrations, data migration, documentation, and data cleanup.

Information Services

- Onboarding and orientation of new IS staff to BED's IT environment.
- Continued work on IT Forward projects: secure file transfer, AMI integration, data extracts for CIS daily syncs, and MDMS data conversion.
- Began user testing for next FIS/CIS upgrade.

Policy and Planning

- Worked to address CoHousing EV issues.
- Updated incentives and Tier 3 program designs for 2022.
- Filed annual Resource Report per Rule 5.200.
- Continued winter preparedness and market monitoring.
- Presented on renewable energy to CP Smith Elementary School classes.
- Began internal power supply familiarization classes.
- Filed proposal for decision in 7.5% rate increase docket.

- Spoke at DeltaClima VT webinar on the Power of Pilot Projects.
- REC position close-out plan for 2021.
- Monitoring 2022 legislative committee activity.
- Received 2022 Standard Offer Exemption approval.
- Responded to customer net metering issue with DPS.
- New Tier 3 program design for multi-family housing development.
- Attended State of VT multi-family housing grant webinar; working to set up a meeting with DPW to coordinate on a proposal.
- Participated in two PUC storage rulemaking workshops, case # 21-3883-RULE.
- Submitted comments to DPS in response to its Request for Information on Design and Implementation of a Program for Flexible Distributed Energy Resources and Control Platforms.
- Submitted information to PUC on BED's EV rate in Case No: 21-5271-INV Public Utility Commission 2021 Investigation into Rates Related to Electric Vehicles.
- Working on NH1 REC qualification for McNeil.
- Posted UNH SI Summer Fellowship Job Description: Electric Vehicle Charging Strategist.
- Finished evaluating Enel X Demo EVSE. Working on data sharing agreement and customer enrollment process.

Sustainability & Workforce Development

- Continued management of the Ventilation Improvement Program, which supports Burlington's smaller commercial customers and non-profit entities with efficient air quality interventions.
- Met with Denver, CO's city transportation team to discuss BED's e-bike program and lessons learned as Denver considers its own program design and implementation.
- Bi-monthly meetings with Department of Permitting & Inspections leadership on Weatherization in Rental Properties ordinance.
- Drafted contracts, set agendas, and planned launch of the Vermont Low Income Trust for Electricity (VLITE) funded project to expand EV access for low-income residents through car sharing and enhanced charging infrastructure.
- Participated in a call with a new coalition of cities (Boulder, CO, Ithaca, NY, Berkeley, CA and Ann Arbor, MI) dedicated to renewable energy, energy efficiency, equity, and electrification.
- Participated in the Urban Sustainability Directors Network USDN Gas Transition learning group co-chair meeting; identified key learning objectives, themes, and speakers for spring and summer 2022.
- Attended first Burlington High School and Burlington Technical Center Advisory meeting. This group of City staff, BHS teachers and administrators, student representatives, and others will provide feedback to the architecture and design teams, including input on important transportation considerations.
- Met with Dean Spacht, Vice President of Sales & Marketing at EVSE LLC, to discuss utility and light pole EVSE technology. Hosted internal discussion on possible pilot effort at BED.
- Joined Burlington 2030 District Director and Chris Burns, Director of Energy Services, to review 2022 District contract including goals setting and objectives. Met with Burlington 2030 District member Freeman French Freeman and BED staff on EVSE deployment at Freeman French Freeman. Submitted quarterly DEED report on Property Energy Plans for multi-unit dwellings.
- Participated in monthly Racial Equity Workshop and White Accountability Group meeting.

Center for Safety and Risk Management – Paul Alexander

Safety

- Completed SQRP results for Safety Year 2021.
- BED finished 2021 with “zero lost work days”. First time since tracking began in 1994.
- Completed & submitted 2021 Bureau of Labor Statistics Survey.

Environmental

- Submitted the Q4 emissions report to the EPA and VTDEC.
- Conducted wastewater reporting for monthly, quarterly, and bi-annual testing requirements.
- Managing ongoing air quality issues at the Pine Street office.

Risk Management

- Continued research, effort, planning and correspondence on Coronavirus (COVID -19), Booster shots, Face mask policy, Testing kits, Return to work plans, Health Officers, Vaccinations, Contact tracing, Signage, etc.
- Reviewed final invoices for non-property insurance lines and respond to Finance on related questions.
- Continued discussions on Property/B&M Insurance recommendations at McNeil (Water Curtain at Control room).
- Follow-up on 6-month UFLS testing status.
- Attend the virtual VT CPCU Chapter meeting.
- Review Foresters’ railcars testing agreement.
- Secured funds for DPW re: stolen vehicle.
- Attend WC claim review with Travelers.
- Review VEIC contract – McNeil.

Purchasing/General Services

- Meeting with BED, Zurich and Alpine on water curtain for dispatch at McNeil.
- Updated McNeil Safety Committee on stairs at Winooski 1 and blue warehouse racking at McNeil.
- Attended monthly meetings with the State of Vermont on the electric bucket truck.
- Worked on improving airflow in the stockroom, dispatch, and distribution areas.

Center for Operations & Reliability – Munir Kasti

Engineering & Operations

- Replaced and commissioned Recloser 234R on North Avenue.
- Completed 11 service requests and continued with the replacement of 175-watt Mercury Vapor street light fixtures to LED fixtures.
- Assisted VELCO at the Queen City substation with an alarm on one of their Transformers.
- Conducted first round interviews for the Distribution Superintendent position.
- Interviewed and hired for the Meter Technician position. The candidate is expected to start in his position on 2/14.

- Interviewed and hired for the Supervisor of Generation positions. The candidate is expected to start in his position on 2/14.
- Working on the Gas Turbine callout procedure.
- Working on the SCADA alarms callout procedure.
- Continued training personnel at the Gas Turbine.
- Oversaw Alba Power personnel who performed borescope inspection at the Gas Turbine.
- Performed troubleshooting at the Gas Turbine and at several SCADA devices in the field.
- Performed work on portable and mobile radios, including installing a mobile radio unit in the Nissan Leaf.
- Continued to analyze load shedding plans in the unlikely event of controlled outages being requested by VELCO and ISO New England.
- Continued analysis of projected increased system peak loading due to Net Zero Energy.
- Prepared and submitted the 2021 Annual Outage Report to the Vermont Public Utility Commission.
- Attended the quarterly Vermont System Planning Committee meeting.
- Released the design and work order for replacing open wire secondary and upgrading the system neutral on the 3L3 circuit along Pine Street between Flynn Avenue and Home Avenue.

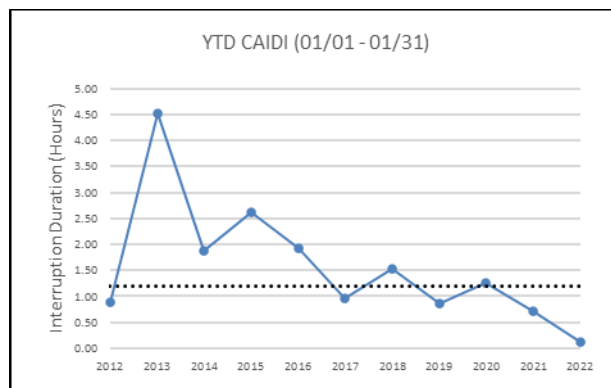
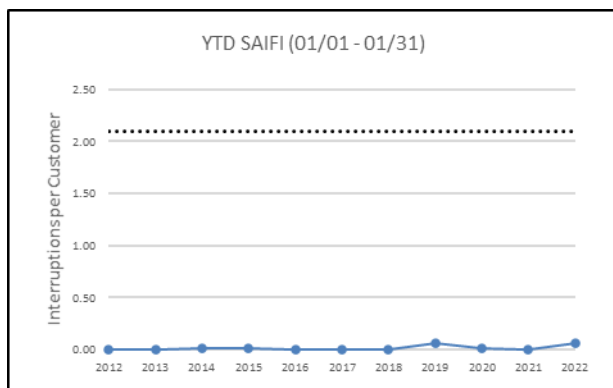
Grid Services

- Waiting on equipment delivery to start the SCADA firewalls and network switches replacement projects.
- Continued training the Power System Coordinator I employee.

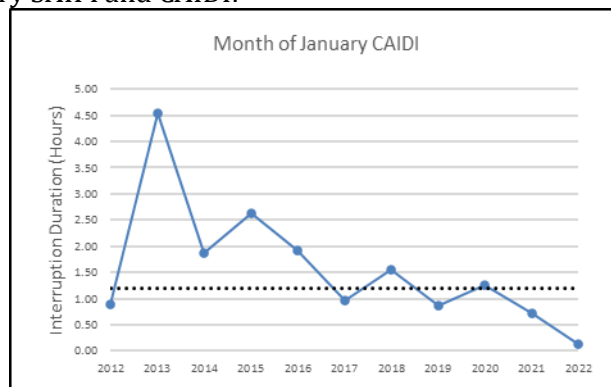
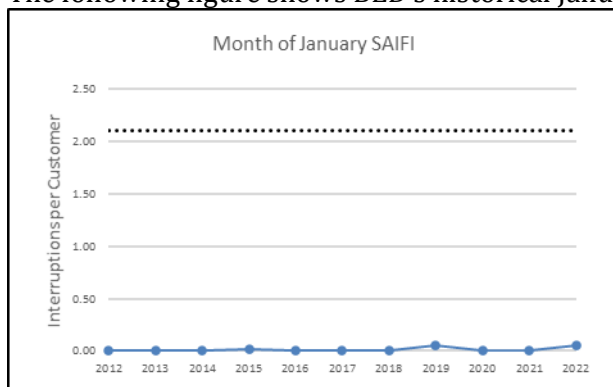
SAIFI & CAIDI Outage Metrics:

BED's distribution system experienced 4 outages in January 2022 (4 unscheduled and 0 scheduled). BED's SAIFI for the Month of January was 0.06 interruptions per customer and CAIDI was 0.12 hours per interruption. BED's YTD SAIFI is 0.06 interruptions per customer and YTD CAIDI is 0.12 hours per interruption.

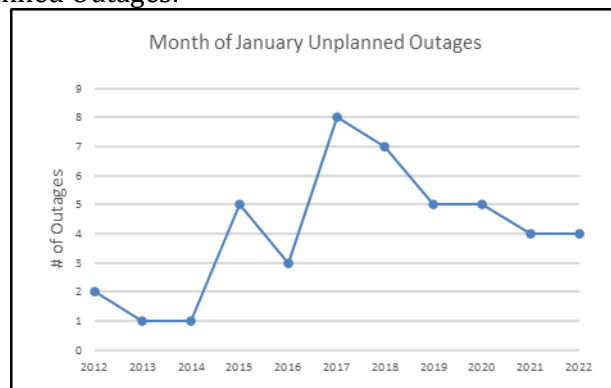
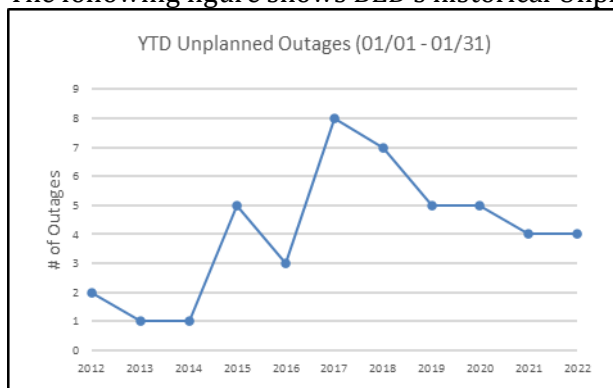
The following figure shows BED's historical YTD SAIFI and CAIDI:



The following figure shows BED's historical January SAIIFI and CAIDI:



The following figure shows BED's historical Unplanned Outages:



GENERATION

McNeil Generating Station, January 2022

Month Generation:	36,165.0 MWh
YTD Generation:	36,165 MWh
Month Capacity Factor:	97.2%
Month Availability:	95.5%
Hours of Operation:	715.6 Hours

This month McNeil had the second highest MWH of production for a single month. The only month we produced more MWH was January of 2018 where we generated 36,968 MWH.

Rodney Dollar has accepted the Supervisor of Generation position, his start date at the plant is scheduled for February 14, 2022.

Winooski 1, January 2022

Monthly Generation:	1,635.086 MWH (64.39% of average)
YTD Generation:	1,635.086 MWH (64.39% of average)
Month Capacity Factor:	29.69%
Annual Capacity Factor:	29.69%
Month Availability:	98%

Burlington Gas Turbine, January 2022

Month Generation:	16.130 MWh
YTD Generation:	16.130 MWh
Month Capacity Factor:	0.094%
Month Availability:	92.760%
Hours of Operation Unit A:	1.2
Hours of Operation Unit B:	1.2

There were two self-scheduled operations of the asset for operability confirmation this month along with approximately 2.5 days of planned downtime for annual borescope inspections. The first operation was a monthly operability confirmation going in to a peak load period and the second operation was to confirm operability after borescope inspection activities. The asset is fully functional and in service at the end of the month.

Solar (Pine Street 107 kW)

Month Generation:	0.7 MWh (424% from previous year, very snowy in Jan-21)
YTD Generation:	0.7 MWh
Month Capacity Factor:	0.9%
Month Availability:	100%

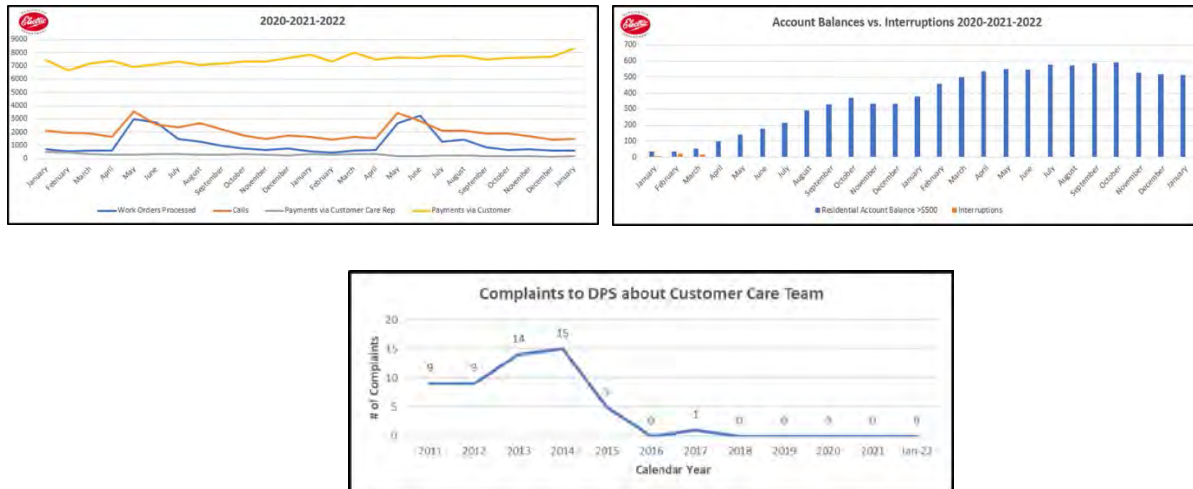
Solar (Airport 499 kW)

Month Generation:	18.6 MWh (3,284% from previous year, very snowy in Jan-21)
YTD Generation:	18.6 MWh
Month Capacity Factor:	5%
Month Availability:	100%

Center for Customer Care & Energy Services – Mike Kanarick

Customer Care

- Call Answer Time (75% in 20 seconds): January 2022 83.9%, December 2021 84.6%, November 85.2%, October 77.7%, September 82.4%, August 81.5%. January 2021 86.7%, December 2020 84.2%, November 85%, October 84.4%, September 84.3%, August 72.1%. Call answer time 0.7% lower than last month and 2.8% lower than same time last year.
- January 2022 Stats: please see dashboard for additional metrics categories.

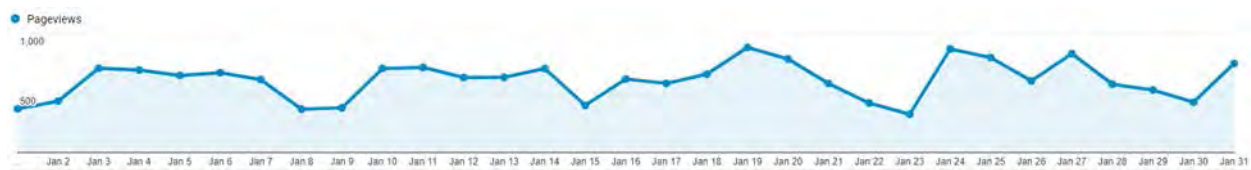


Communications and Marketing

- **Net Zero Energy Revenue Bond press conference:** on January 27, BED joined forces with Mayor Weinberger to hold an online press conference during which we thanked the Burlington community for supporting the \$20 million Net Zero Energy Revenue Bond and announced redoubled efforts to electrify the City and reduce fossil fuel usage. These efforts include: new and expanded strategic electrification incentives; a series of town hall meetings intended to increase awareness of the importance of electrification; and renewed efforts to secure legislative approval of Burlington’s voter-approved charter change that would give the City greater ability to regulate heating systems and facilitate the switch to renewable energy options. We invite you to read the [press release](#). (Note: last month, we reported that we issued a press release about our new and expanded incentives during the first week of January 2022, as at the time of preparing last month’s BEC report, that was our plan. However, just after sharing the report, we changed course and partnered with Mayor Weinberger to hold the press conference mentioned above to enhance the announcement.)
- **Temporary Energy Assistance Program to offset 7.5% rate increase:** to help offset BED’s first-rate increase in 12 years that began appearing as a surcharge on customer bills in August, we are offering income-qualified customers temporary assistance in the form of a monthly bill credit through June 2022. So far 75 (up from 69 and 58) customers have applied with 57 approved and 18 awaiting verification. 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 “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 560 of 818 (up from 478 of 696 December, 411 of 639 November, 312 of 561 October, and 280 of 461 September) program applicants for a total of \$434k (up from \$353k December, \$323k November), of which BED has received \$388k (up from \$263k December, \$212k November).
- **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.

- North Avenue News: our February ad promotes the new Vermont Homeowner Assistance Program (VT HAP). Our column also promotes VT HAP, as well as promoting our new, expanded, and continuing NZE incentives.
- January 2022 Website and Facebook Highlights
 - Overall site-wide pageviews for January 2022 = 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
 - January = 20,402
 - December 2020 = 18,797
 - November = 19,638
 - Unique homepage pageviews for January 2022 = 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
 - January = 7,571
 - December 2020 = 5,561
 - November = 7,071

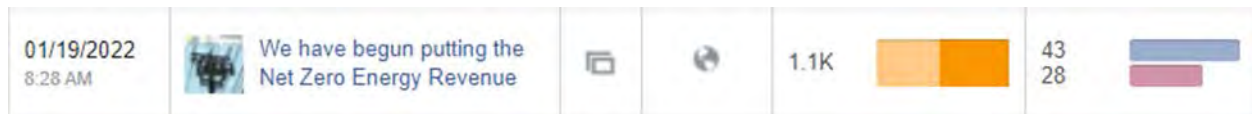
Full site traffic for January 2022



- 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	Jan 2022	Dec 2021	Nov 2021	Oct 2021	Sep 2021	Aug 2021	July 2021	June 2021	May 2021	Apr 2021	Mar 2021	Feb 2021	Jan 2021	Dec 2020	Nov 2020	Oct 2020	Sept 2020
Burlington Electric Department	7237	7353	7246	8186	7845	8464	9164	9085	9667	6884	7234	6550	7571	7130	7071	7497	9277
My Bill	3122	2670	2737	2825	2943	2846	3033	3295	3235	3087	3228	3046	3532	3308	2995	3258	3651
Waste Wood Yard	527	804	1649	1069	1045	1082	1212	1160	1569	2034	1110	367	979	761	1756	1545	1303
Report A Problem	95	385	93	235	119	79	153	135	93	60	88	80	80	121	76	140	721
Stop or Start Service	248	279	306	298	454	867	803	1079	2599	622	337	279	336	277	330	366	502
E-billing	340	345	274	276	376	345	522	451	337	380	352	368	495	528	397	394	669
Contact Us	445	439	448	460	577	642	638	731	949	468	560	413	417	467	414	436	547
McNeil Generating Station	374	379	644	443	347	339	447	429	627	791	517	395	525	507	734	634	548
Heat Pumps	382	264	394	477	406	496	567	369	82	40	39	46	30	18	36	36	36
Rebates	450	377	501	537	566	571	621	795	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Rebate Center	549	419	499	546	530	667	679	319	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Green Stimulus	57	27	49	91	106	113	138	233	255	257	280	504	283	208	158	152	171
Stop or Start Service	248	279	306	298	454	867	803	1079	2599	622	337	279	336	277	330	366	502
Leadership Team	265	196	222	206	243	276	228	240	212	198	308	218	286	207	193	190	269
Rates & Fees	221	203	166	214	178	132	143	247	310	184	212	218	161	140	139	190	190
Usage Tracker Registration	156	142	127	114	94	154	177	223	107	118	150	196	185	209	147	154	201
RFP	362	152	270	243	452	497	455	158	143	439	393	471	404	258	387	400	383
Residential Ways to Save	147	157	164	156	172	191	172	220	217	173	175	163	137	159	137	212	172
Electric Vehicles	222	244	296	289	272	265	245	332	247	258	246	218	210	190	208	296	219
E-Bikes	78	76	78	161	168	265	207	192	223	242	196	117	106	109	117	131	174
Net Zero Energy News	33	26	32	67	204	129	115	178	210	132	187	195	228	179	225	222	241
Electric Vehicles	222	244	296	289	272	265	245	332	247	258	246	218	210	190	208	296	219
COVID-19 Updates	17	16	22	79	153	166	397	540	335	275	332	301	349	337	323	281	83
Our Energy Portfolio	58	48	88	104	96	59	42	n/a	51	110	102	101	49	51	53	84	125
Electric Lawn Mowers & Leaf Blowers	49	39	94	117	150	133	184	229	408	312	176	79	131	70	157	101	88
RFP Detail	214		94	49	258	334	185	n/a	23	401	199	414	303	148	293	321	403
Defeat The Peak	8	n/a	12	n/a	11	137	22	155	11	17	20	35	n/a	n/a	10	20	n/a
Commercial Ways to Save	30	43	37	41	98	55	39	62	26	46	59	33	37	41	34	53	33

- Top Facebook post – our boosted post promoting new equipment we installed on North Avenue that was made possible/funded by the Net Zero Energy Revenue Bond.



Blue: clicks / Red: comments, shares

Energy Services

UVM

- UVM / Hills Ag-Science Renovation – BED received the preliminary design drawings last month for this upcoming UVM building renovation project. A second meeting was held this month between UVM, the energy modeler, and design team to discuss the preliminary energy modeling results. Included was a discussion of how to update and expand the model to make it more comprehensive in order to capture energy savings from all aspects of the project, including energy efficient internal plug loads.
- Overall project activity has slowed due to UVM staff focus on pandemic related safety issues.

UVMCMC

- Main Parking Garage Lighting Upgrade – BED continues to work with the hospital and their lighting distributor on exploring an upgrade to their existing 600-plus fixtures in the highly-utilized underground parking garage from T8 fluorescent technology to LED lighting.
- Overall project activity has slowed due to UVMCMC staff focus on pandemic related issues.

Other Services

- Burton Corporation / HVAC Upgrade – Burton has engaged an engineering company to undertake a study of their corporate headquarters HVAC system to evolve it into a more efficient and environmentally friendly configuration. This is envisioned as a long-term project to be developed

in stages. Our first conversations with the design engineer have been to evaluate the feasibility of geothermal at the site in the south end of Burlington. There is even potential for a community geothermal system. VGS has been invited to the table to discuss their interest in working with BED and Burton on this project.

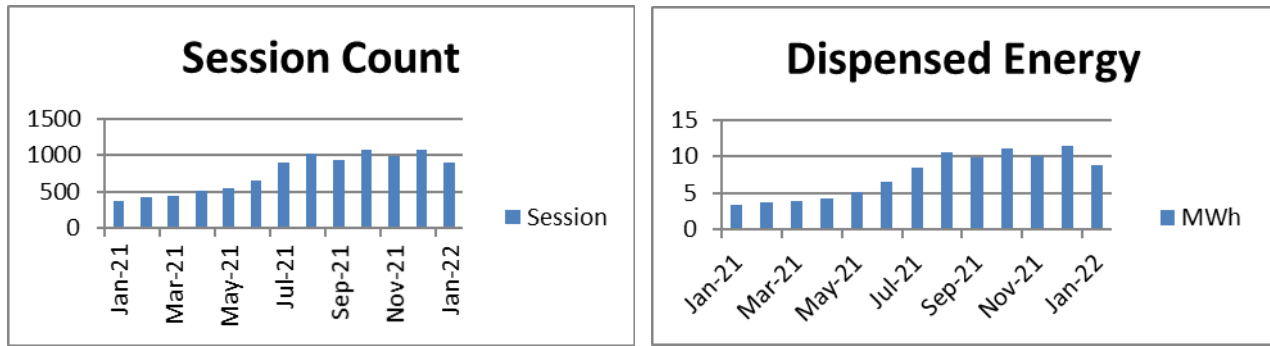
- Hannaford North Ave / Renovation – BED is working with VEIC on energy savings measures associated with this supermarket renovation project. VEIC has a contract with Hannaford's parent company to handle energy efficiency incentives for all of their stores along the upper East Coast. The renovations were completed near the end of last year. BED will be meeting virtually with a VEIC energy associate early next month to finalize the measures and rebates. A site visit will follow. Materials for these renovations are purchased out of state. Measures for this store will include Smartlight type lighting rebates, upstream-structured rebates for CCHP's, and also a group of custom rebates associated with efficient refrigerated cases. We will be discussing at least one more potential rebate involving the enclosure of the produce area cooler to reduce exfiltration of cold air into the store.
- Echo Center / Net Zero Renovation – The Echo Center ("Vermont's Science and Nature Museum on the Burlington Waterfront") has initiated a discussion with BED and consultants from the private sector to develop a plan to move this facility to a Net Zero operational status. A proposal was obtained this month to outline the series of steps required to develop a final scope of work, and a cost estimate. It will be based on an engineering study to determine the feasibility of a geothermal system. An open loop geothermal system is hoped to be found viable and a test well will be required as part of this study. BED is awaiting more information from the Echo Center before further discussing possible incentives for this work.
- Old Spokes Home Bike Shop / Lighting Retro-fit – This lighting upgrade has been in the planning stages for about a year. It involves the upgrading of existing fluorescent fixtures with LED drivers and light engines. There are about 60 fixtures involved, in the shop areas, retail area, and storage and offices areas. It is hoped to have all the fixture upgraded by sometime next month.
- Citizen Cider Processing Facility / HVAC Re-Commissioning – This new manufacturing facility was constructed about two years ago. On-going building HVAC and refrigeration issues caused BED to encourage the owner to investigate the root causes of the problems and identify permanent solutions. They were enrolled in our HVAC recommissioning program, and over a period of months the controls sequences of operation were closely examined, and adjustments were made. Analysis this month of pre- and post-project AMI data confirmed the energy savings of this effort, and a final incentive payment was made to the owner, and the energy savings measure entered into the DSM database.
- Hines Lofts / HVAC Replacement – This building is a 14-unit multi-family at 161 St. Paul St. which was a major renovation project in 2008. The HVAC systems, including the natural gas boilers, are reaching end-of-life. The condo association is interested in investigating the potential of moving away from natural gas heat towards a non-fossil fuel solution for heating. BED completed and delivered a high-level study of the most feasible path for electrification of heating energy for the building. We also updated the owner as to potential energy efficiency improvements that might further be investigated that were uncovered during an earlier BED walk-through.
- Cathedral of St. Paul / High Bill Inquiry – This organization has recently joined the Burlington 2030 District, which has quantified goals for energy use reductions in different building types throughout the City. An interesting feature of this building is that it is mostly all concrete

construction. It has been noted that the monthly electric bill for the building is fairly high. An initial analysis of the AMI data for the account does show some high loads that continue on throughout unoccupied hours and overnight. Relatively high natural gas heating use is also being seen. BED and VGS have agreed to assist in financing a blower door test and analysis for the Cathedral to determine if high infiltration rates are a factor in the high heating energy use. A blower door test proposal is expected to be available early next month.

- 77 Pine St. Renovation / Bank Offices and Multifamily – The north side of this renovated building is bank offices, and it has been fully occupied since April, 2021. Just being completed is the renovation of the south side of the building, which consists of 70+ apartment units. The entire building underwent a blower door test last month, with results putting the building in the “High Performance” category for infiltration. BED is continuing to work on calibration of the bank side energy model in comparison to the actual energy usage of that half of the building. Once calibrated and energy savings confirmed, the second rebate payment will be made available.
- YMCA New Construction / Final Calibration and Savings Claim – This new YMCA Facility on College St. has been completed and in operation for nearly two years. However, Covid restrictions have interfered with final savings calculations. BED is presently confirming that the energy model and actual building operation are in step with one-another. Once done, the formal energy savings claim can be determined. One concern that has been noted is the unexpectedly high natural gas consumption of the finished building. Last month, BED completed a site visit in conjunction with the M&V team representing the PSD. Various loggers were installed, and other data gathered for use in updating the energy model. The loggers were removed this month, and the data downloaded. Further adjustments are being made to the energy model to optimize its predictions with actual building performance. As a separate step, the building owner is interested in recommendations as to control setting adjustments which will increase the building’s energy efficiency and reduce utility costs, without interfering with occupant comfort.
- Weatherization coordination with VGS - VGS requested electrical account usage histories (with customer permission) for 8 SF and 3 MF buildings (representing 8 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 111 SF and 70 MF buildings (representing 231 living units).
- 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.

Electric Vehicles

- The EVSE dispensed a total of 8.86 MWh and supported 890 sessions.
- The top 3 sales were 68, 69 & 78 kWh and occurred at Church & Main, St. Paul & Main and the College St. garage.
- The top 10 sessions (1.1% of total) accounted for 7.2% (635 kWh) of the total monthly sale. The ten sessions ranged from 57 kWh-78 kWh.
- The Pine St. DC fast charger no longer appears on the network. A modem upgrade kit was not available from ChargePoint.
- The EVSE served 375 unique drivers.
- Session Count and Dispensed Energy plots from the from the public charging network are shown below.



- Number of EV and PHEV rebates to date – 352 (of this 58 LMI rebates to date as shown below)
 - New All Electric Vehicle – 150
 - New All Electric Vehicle (LMI) – 26
 - New PHEV – 98
 - New PHEV (LMI) – 30
 - Used All Electric Vehicle – 23
 - Used All Electric Vehicle (LMI) – 1
 - Used PHEV- 13
 - Used PHEV (LMI) – 1
 - All Electric Vehicle (\$50K plus) – 10
- Number of customer loans with lending partners to date – 5
- Number of customers currently participating in the new EV Rate- 102
- Number of EV home charging stations rebates to date – 57

Electric Lawn Equipment to Date

- Number of e-mower rebates to date – 395 (11 commercial & 384 residential)
- Number of e-leaf blowers to date – 33

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

- Total Number of Heat Pump Technology rebates to date- 605 (of this 82 LMI rebates to date as shown below):
 - Number of ductless heat pumps to date – 460
 - Number of centrally ducted heat pumps to date – 120
 - 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 income-eligible space conditioning heat pump participants to date – 78
 - Number of heat pump hot water heaters to date – 21
 - Number of income-eligible heat pump hot water heaters participants to date - 4

Electric E-Bikes to Date

- Number of e-bike rebates to date – 272

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

- Number of induction Stovetops rebates to date – 11

BED 2021-2022 Strategic Direction Dashboard

Metrics by Strategic Initiative	Target	Jan 2022 Actuals	2021 Yearly Actual	Dec 2021 Actuals	2020 Yearly Actual	2019 Yearly Actual
Engage Customers and Community						
Call answer time 75% within 20 seconds	75%	90%	avg 82%	85%	avg 81%	
Delinquent accounts >\$500	0	513	avg 529	517	avg 201	
Disconnects for non-payment	0	0	0	0	45	
# of residential weatherization completions	10	0	5	1	3	11
Weatherization completions in rental properties		0%	0	-	0	TBD
# or % of homes or SF weatherized		TBD	TBD	TBD	TBD	0
Champ Challenge weatherization participants		3	0	0	1	TBD
# of commercial building with improved thermal envelopes		0	5	0	5	0
% of EEU charge from LMI customers spent on EE services for LMI customers		TBD	TBD	TBD	TBD	TBD
Strengthen Reliability						
SAIFI (AVG interruptions/customer) (annual target)	< 2.1	0.06	0.22	0.03	1.50	1.03
CAIDI (AVG time in hrs to restore service) (annual target)	< 1.2	0.12		0.96	0.55	0.75
Distribution System Unplanned Outages (annual target)	82	4	44	11	90	98
McNeil Forced Outages	0	2	5	1	21	TBD
W1H Forced Outages	0	0	9	1	2	TBD
GT Forced Outages	0	0	2	0	3	TBD
Invest in Our People, Processes, and Technology						
Avg. # of days to fill positions under recruitment	120	115	68	92	179	
# of budgeted positions vacant	0	10	avg 9	12	6	NA

BED 2021-2022 Strategic Direction Dashboard

Metrics by Strategic Initiative	Target	Jan 2022 Actuals	2021 Yearly Actual	Dec 2021 Actuals	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	20	315	16	203	10
# of commercial heat pump installs		1	4	0	13	0
# of residential hot water heat pump installs		0	14	2	6	4
# of commercial hot water heat pump installs		0	0	0	0	0
Heat pump rebates		21	328	18	212	0
Heat pump hot water heater rebates		0	15	2	3	0
LMI heat pump rebates		0	28	0	6	4
Heat pump technology installs in rental properties		1	14	0	9	TBD
LMI heat pump hot water heater rebates		0	2	0	0	1
EV rebates - new		6	67	2	14	36
EV rebates - pre-owned		1	7	1	8	2
LMI EV rebates		0	11	0	7	7
PHEV rebates - new		0	41	7	10	17
PHEV rebates - preowned		1	6	1	5	3
LMI PHEV rebates		1	13	3	6	2
Public EV chargers in BTV (total)		27 ports	27 ports	27 ports	27 ports	14
Public EV charger energy dispensed (kWh)		8,860	86,570	11,400	35,690	78,000
Home EV charging station rebates		1	32	1	20	12
EV rate charging customers (total)		102	40	98	40	28
Level 2 charger rebates		0	10	0	0	1
Level 1 charger rebates		0	0	0	1	0
E-bike rebates		4	88	2	36	65
E-mower rebates		2	154	4	95	142
E-forklift rebates		0	0	0	0	0
MWE of Tier 3 measures installed		1,544	23,763	1,021	35,112	3,342
% Tier 3 obligation met with program measures	100%	9%	159%	159%	283%	31%

BED 2021-2022 Strategic Direction Dashboard

Metrics by Strategic Initiative	Target	Jan 2022 Actuals	2021 Yearly Actual	Dec 2021 Actuals	2020 Yearly Actual	2019 Yearly Actual
<i>Net Zero Energy Roadmap Goals</i>						
# of solar net metering projects installed		4	29	2	24	33
No. of homes receiving NZE Home Roadmaps		2	10	2	7	
Residential heat pumps for space heating (no. of homes)	2020: 3963	NA		NA	891, 22% of goal	572
Commercial heat pumps for space heating (SF floor space served)	2020: 1190	NA		NA	1304, 110% of goal	374
Residential heat pumps for water heating (no. of homes)	2020: 1466	NA		NA	92, 6% of goal	87
Commercial heat pumps for water heating (SF floor space served)	2020: 263	NA		NA	0	-
EV registrations in BTV (light-duty)	2020: 548	NA		NA	356, 65% of goal	291
Greenhouse gas emissions (1000 metric tons CO2)	2020: 190	NA		NA	182, 104% of goal	211
Fossil fuel consumption (billion BTU)	2020: 3207	NA		NA	3142, 102% of goal	3,619
Manage Budget and Risks Responsibly						
<i>Safety & Environmental</i>						
No. of workers' compensation/accidents per month	0	0	4	0	8	
Total Paid losses for workers' compensation accidents (for the month)	\$225,000 annual	\$757	\$ 93,612	\$1,019	\$ 165,402	\$38,288
Lost Time Incident Rate (days/year) (Dec numbers reflect annual results)	<= 3.5	N/A	0.0	N/A	0.93	0.89
Lost Time Severity Rate (days/year) (Dec numbers reflect annual results)	<= 71	N/A	0.0	N/A	41.71	78.2
Lost work days per month	0	0	0.0	0	45	
NOx reporting levels to EPA (Quarterly) (lbs/mmbtu)	<0.075	0.071	0.07	0.070	0.07	
# of reported spills, waste water incidents (monthly)	0	0	4	0	4	
Phosphorus levels to DEC in lbs (monthly/yearly total)	<0.8/37	0.145/1.839	2.028	0.019/2.028		1.169
# of new power outage claims reported (monthly)	1	0	7	0	4	
# of new auto/property/other liability claims reported (monthly)	2	0	18	3	27	

BED 2021-2022 Strategic Direction Dashboard

Metrics by Strategic Initiative	Target	Jan 2022 Actuals	2021 Yearly Actual	Dec 2021 Actuals	2020 Yearly Actual	2019 Yearly Actual
<i>Purchasing & Facilities</i>						
# of Purchase Orders for Inventory (Target: avg for winter months)	42	70	644	80	593	
\$ value of Purchase Orders for Inv. (Target: avg dollars spent during winter)	\$78,000	\$566,870	\$ 3,278,620	\$214,140	975,531	
# of stock issued for Inventory (Target: avg during winter months)	320	387	4,402	387	4,545	
\$ value of stock issued for Inventory (Target: avg. during winter)	\$ 65,000	\$ 39,432	855,456	\$ 82,565	1,086,478	
# of posters pulled from poles monthly (Taget: goal to remove each month)	58	96	2,728	90	627	
# of Spark Space and Auditorium setup/breakdowns monthly (Target: Covid impact)	3	2	88	8	87	
<i>Finance</i>						
Debt service coverage ratio	1.25		NA-FY basis	4.80	NA-FY basis	NA-FY basis
Adjusted debt service coverage ratio	1.5		NA-FY basis	1.27	NA-FY basis	NA-FY basis
Days unrestricted cash on hand	>90		NA-FY basis	129	NA-FY basis	NA-FY basis
<i>Power Supply</i>						
McNeil generation (MWH) (100%)	per budget	36,165	273,355	30,175	192,696	
McNeil availability factor	100%	96%	80%	81%		
McNeil capacity factor	per budget	97.2	62%	81%		
Winooski One generation (MWH)	per budget	1,635	24,752	2,903	21,194	
Winooski One availability factor	100%	98%	97%	98%		
Winooski One capacity factor	per budget	30%	37%	53%		
Gas Turbine generation (MWH)	NA	16.1	373	14.5	441	
Gas Turbine availability factor	100%	93%	96%	100%		
Gas Turbine capacity factor	NA	0.09%	0.21%	0.085%		
BTV solar PV production (mWh)		156	5,015	159	5,182	
Cost of power supply - gross (\$000)			\$30,285	\$2,602	\$31,081	
Cost of power supply - net (\$000)			\$22,134	\$2,602	\$23,388	
Average cost of power supply - gross \$/KWH				\$0.10	\$0.10	
Average cost of power supply - net \$/KWH				\$0.10	\$0.08	

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

Wednesday, January 12, 2022, 5:30 pm

The regular meeting of the Burlington Electric Commission was convened at 5:30 pm on Wednesday, January 12, 2022 via Microsoft Teams Video Meeting.

Channel 17 was present via Microsoft Teams Video to record this meeting.

Commissioners Chagnon, Herendeen, Moody, Stebbins, and Whitaker participated via Microsoft Teams.

Staff members present included Darren Springer, Paul Alexander, James Gibbons, Mike Kanarick, Munir Kasti, Laurie Lemieux (Board Clerk), Paul Pikna, and Emily Stebbins-Wheelock.

1. Agenda

There were no changes to the Agenda.

2. December 8, 2021 Meeting Minutes

Commissioner Moody made a motion to approve the minutes of the December 8, 2021 Commission Meeting; the motion was seconded by Commissioner Herendeen.

The Board Clerk, Laurie Lemieux, conducted a roll call vote by calling on the following Commissioners:

Commissioner Chagnon. Aye
Commissioner Herendeen. Aye
Commissioner Moody. Aye
Commissioner Stebbins. Aye
Commissioner Whitaker. Absent

Results: 4 Ayes with 0 Nays, the motion carries. Commissioner Whitaker arrived after the vote was taken.

3. Public Forum

Mr. Gary Causer, Ms. Sharyl Green, and Mr. Don Schramm were present for the meeting.

Ms. Green, a resident of Burlington Cohousing explained that Burlington Cohousing is a 32-unit housing development located off East Avenue. Ms. Green stated that she expressed her concerns at the 2021 January Commission Meeting and is present tonight to follow-up and perhaps help make changes.

Presently, six electric vehicle (EV) owners and one plug-in hybrid electric vehicle (PHEV) owner all have access to the full software, and each activates the charging of their own vehicle via a phone application or the software itself. The chargers run off the development's common meter, which covers all the electric use on the site with the exception of individual use within each apartment and townhouse. For the past year, Cohousing has worked out the car charging billing among themselves, which runs approximately \$0.17 per kWh.

Ms. Green stated that they appreciate the EV incentives BED has offered but noticed that residential charger owners have benefited in terms of BED rate reduction incentives, whereas common meter charging owners have not. The Cohousing common meter rate falls under the small general (SG) service plan restrictions, which state that energy consumption cannot exceed 3,000 kWh per month or equal to an average of 100 kWh per day for any three consecutive months during the previous 12 months. The recent billing period ended December 21, 2021, and they have gone over at 3,108 kWh and as of today, they have used 2,663 kWh and still have nine days to go in the month. Ms. Green stated that, at this point, they have stopped using the car chargers.

Ms. Green asked if the charging portion of the meter could be separated, at least for three months.

Recently, Ms. Green has been working with Brian Reilly, Jake Yanulavich, and Casey Lamont to try to find a solution, but have not yet found one that will work.

Mr. Schramm stated that it would help if the 3,000 kWh could be bumped up. For example, he stated that Burlington Cohousing just installed energy recovery ventilators (ERVs) and, although they don't use a lot of power, they are adding to the usage. Mr. Schramm stated that, with the extraordinary help from Brian Reilly and other members of the BED team, Burlington Cohousing residents have bought heat pumps, using BED incentives. He further shared that this year they have five units that have volunteered to use heat pumps for their main heating source, and Burlington Cohousing has agreed to reimburse these residents for the electric costs.

Mr. Schramm and Ms. Green stated that Burlington Cohousing is doing their part to reduce their carbon footprint and is asking for assistance on how to remedy this EV charging issue.

Mr. Gibbons stated that BED does have some flexibility with incentives, but that we do not have any flexibility on changing electric rates. In most states, if a municipal utility wanted to change its electric rates, it could do so. In Vermont, however, we are regulated by the state and would need state approval. The process to alter rate structures is a long process and would require the approval of the Public Utility Commission (PUC) before it could be implemented.

Mr. Gibbons stated that, as of July 1, 2021, BED had received approval to change the EV rates and that the Department did change the SG and LG rates. As of that time, charging under BED's EV charging rate is no longer used for the calculation of the 3,000-kWh cutover. This required changes to BED's internal billing and also to how BED receives data from car chargers. At this time, we are unable to see into Burlington Cohousing chargers in a way that the Department would need to build a rate. The BED team has been working with the manufacturer to find a solution.

Mr. Gibbons stated that the team will continue to work on this issue and will provide the data the Department is requesting from car-charging company enel x, the tariff language for the SG, and the tariff that would need to be approved for the charging use.

Commissioner Stebbins asked Ms. Green to email in a few weeks to let BED know if any progress has been made so the Commission can keep abreast of this issue.

Mr. Gary Causer stated that he is attending the meeting to hear the update on the Street Lighting Policy.

Mr. Causer stated that he is trying to live with the amount of lighting that has come into the neighborhood in the past couple of years. Mr. Causer lives on the corner of Richardson Terrace and Lyman Street. Richardson Terrace has just been reworked and, if you count the light fixtures on Flynn Avenue, there are 18 fixtures and, between Flynn Avenue and Home Avenue there are 18 fixtures. Mr. Causer stated that it's a lot of light, that this is his neighborhood, that he's lived in the neighborhood a long time, and that in his opinion it doesn't seem like the best use of limited resources. It seems excessive.

Mr. Causer stated that Andy Elliston and Enis Sehovic have been very receptive to his inquiries, and he is not questioning their work, but rather the lighting standards we are applying in the City. Mr. Causer is looking forward to Mr. Elliston's presentation.

Commissioner Stebbins asked the Commission members if they were amenable to moving Agenda Item #7 to be considered immediately following Public Forum so Mr. Causer would not have to wait for the presentation. The Commission agreed.

Street Lighting Standards

Mr. Elliston stated that BED has been tasked by the City Council with the responsibility of lighting the accepted City streets of Burlington. This policy was first adopted by the Commission in 2014 and has been updated in both 2017 and 2020, and also approved by the Commission.

This policy is followed when installing standard street lighting poles and fixtures and making decisions about the location of decorative poles, fixtures, and banners attached to poles.

The Department is aware of the dark sky goals and ensures that energy efficiency is a high priority and all street lighting in the City is designed to conform to the Illuminating Engineering Society

(IES) recommendations. Fixtures are modeled using a road template and light levels on the street and sidewalks. During such evaluations, the Department chooses a fixture that is energy efficient and provides adequate lighting on the street and sidewalk, while minimizing light spilling beyond the sidewalks.

The IES-recommended lighting levels are determined by the classification of the street. There are three different classifications that are provided to BED by the Department of Public Works:

- Major (highest lighting levels)
- Collector
- Local (lowest lighting levels)

BED maintains a street lighting capital plan that:

- Includes a list of streets where lighting will be upgraded, or new lights will be installed, to meet IES lighting level recommendations.
- Is driven by projects specified by BED, City/State projects, and customer requests.
- Considers light fixture replacement so that, if a fixture fails on a street that does not meet IES lighting recommendations, the fixture is replaced with an equivalent LED fixture.

If BED is designing a system rebuild/upgrade project, BED evaluates lighting levels and brings the street to IES recommendations if it does not currently meet them. This may include replacing fixtures on existing poles or adding new poles and fixtures.

When a customer contacts BED with a concern regarding street lighting levels (either excessive or insufficient), BED investigates by performing a lighting study. If the lighting study finds the lighting level on the street to be below IES recommendations, the street is added to BED's street lighting capital plan list, and upgrades are implemented as budget allows. If the lighting study finds that the lighting level meets the IES recommendations, BED informs the customer that the lighting is adequate and meets IES recommendations. If the lighting study finds that the lighting level could be reduced and still meet IES recommendations by replacing fixtures with lower light output fixtures, BED adds the project to the street lighting capital plan and implements as budget allows.

Commissioner Stebbins stated that, when reviewing the Street Light Policy, the Commission kept balancing the consideration of safety as compared to dark sky goals and not having light pollution.

Mr. Alexander stated that safety is of the utmost importance. If there is an accident or if a pedestrian has been hit, the first question asked by the Burlington Police Department and the attorney representing the client always will be about the lighting standards at the time of the accident. So, there is a safety factor that needs to be balanced. As long as BED is within those specifications, we are fine.

Mr. Causer asked if the department could revisit some of these lighting projects and double check some of the lighting standards to see if they might exceed the IES recommendations.

Commissioner Herendeen stated that the term is “recommended” lighting level and perhaps more research is needed. Commissioner Herendeen’s sense is that this issue is being brought up in places all over the country.

Mr. Kasti agreed with Commissioner Herendeen that the department needs to do more research to determine what is going on outside of Burlington and outside of Vermont. Mr. Kasti suggested that we get in touch with IES to see if they have anything more specific related to the lighting of residential streets that would allow us to lower the light levels. Mr. Kasti also suggested that it may be time to reconvene the lighting committee.

Mr. Springer stated that he would advise Mr. Bill Ellis, BED’s longstanding attorney who has PUC and regulatory experience, as well as the City Attorney’s Office. Mr. Springer also stated that BED’s Engineering Team currently is reviewing everything within the IES standards to look at what flexibility we may have and whether we are able to change our processes to address some of the concerns. We are interested in looking at these issues and also staying within a standard that can protect the City and BED from a liability standpoint.

Commissioner Stebbins asked Mr. Kasti and Mr. Elliston for a reasonable time frame by when they would be able to report their findings. Mr. Elliston stated that he first would meet with the Engineering Team and then get back to the Commission in the next few days regarding a time frame.

Mr. Causer thanked Mr. Elliston and the Commission for their time.

4. Commissioners’ Corner

There were no questions or comments.

5. GM Update

Mr. Springer stated that we have a new Finance Director and IT Director, each starting next week and that we successfully have recruited for additional IT staff positions.

BED continues to work remotely where possible and has created rotations and safety procedures to limit exposure for on-site employees. Masking is now required in all BED facilities when two or more people are in a room together, and we have ordered KN95 masks for all employees working on-site. All City Council and Commission meetings are now remote, with just one staff member hosting in-person in case members of the public join in-person.

With the Revenue Bond resolution now passed by the City Council following recommendation from the Commission, we are putting Net Zero Energy Revenue Bond funds to work. We now are able to get reimbursement for work that takes place under the Revenue Bond. We will make a concerted effort to document the Revenue Bond projects by sharing highlights and updates through a variety

of media to make sure the community is aware of how we are putting those resources to work. We also anticipate having an official announcement later this month on our new, expanded, and continuing 2022 strategic electrification incentives, all made possible in part by the revenue bond.

We have District Energy meetings with UVM and UVMMC in January, as we look to wrap up Phase 3. We also anticipate knowing more about the status of the federal appropriations with Congress looking at a February expiration of the current Continuing Resolution.

The Department has kicked off the budget season for FY23. As of now, one goal is to establish a permanent low-income discounted electric rate option in FY23. In FY22, funded with ARPA funds from the City, we were able to offer a temporary energy assistance program that offsets the current rate increase for qualified customers.

Mr. Springer stated that we are excited that BED was successful in our grant application to VLITE, in partnership with Champlain Housing Trust and CarShare Vermont, with funds supporting adding two new Chevy Bolts to the CarShare fleet in Burlington, and dedicated charging downtown and near The Family Room in the Old North End.

We have engaged Synapse again in 2022 to update our roadmap and give us the latest emissions and fossil fuel use data for 2021. With the economy reopened for much of 2021, we will be examining the impact that our incentives had on reducing emissions. We hope to have some results in the spring.

We anticipated having an update on the Moran Frame Project, but the information was not ready for this evening. It is our hope to present this at the next meeting.

Mr. Springer stated that Chris Burns and Jennifer Green have been working with the Department of Permitting and Inspections, along with our colleagues at VGS on developing the rental weatherization standards. This ordinance is now fully enacted, and we have identified the first cohort of buildings that will need to comply, properties that are the 90,000+ BTU per sq. ft. per year. Those are going to go through the compliance process and start getting into the queue for weatherization. We now have a schedule that's been adopted to move through the various cohorts from now until 2025. Once this process is complete, all those buildings in the various energy use categories will be weatherized or in the queue to be weatherized.

6. FY22 November Financials

Ms. Stebbins-Wheelock stated that she is excited to be welcoming Emily Byrne as our Finance Director starting January 18. Ms. Byrne comes with significant experience in public budgeting and public administration at the State of Vermont. Also on January 18, she is excited to welcome as BED's new IT Director Erica Ferland, who joins with 20 years of experience in networking and system administration, along with team management. We also have filled two of the three current vacancies in the IT Department, bringing that team close to full strength.

Ms. Stebbins-Wheelock stated that she participated in a 2022 revenue bond issuance kick-off call last week with the City finance team, our debt advisors, and the City's bond counsel. This group reviewed the process and timeline for issuance. At this time we are targeting March 31 for issuance. At the February meeting, BED staff will be bringing to the Commission for recommendation to the Board of Finance and City Council a resolution to authorize the Chief Administrative Officer of the City and the General Manager of Burlington Electric to issue the bonds. This resolution will be similar to those that the Commission and City Council have adopted for past revenue bond issuances.

Ms. Stebbins-Wheelock presented the budget-vs-actual results for the month of November FY22. The Department had a net income of \$1.06M in November compared to a budgeted net income of \$999K. On the revenue side, actual sales to customers were unfavorable to budget by \$123K. Residential sales were up \$12K, and commercial sales were down \$137K. Other revenues, mainly EEU, were down \$135K and power supply revenues were favorable vs budget by \$67K.

Power supply expenses were down \$268K, and operating expenses were down \$210K compared to budget. Other income was \$273K under budget for November, mostly due to customer contributions not arriving as planned.

For FY22 year-to-date, actual net income is \$553K below budget.

As of November, the Department has spent 23% of the FY22 capital budget and has an operating cash balance of \$11.4M, or 138 days cash on hand. The debt service coverage ratio is 4.53, and the adjusted debt service coverage ratio is 1.18.

Commissioner Whitaker stated that the Department continues to see high customer arrearages and asked if that problem has mostly gone away as it wasn't showing up in the financials.

Ms. Stebbins-Wheelock stated that the Center for Innovation's monthly report includes a chart of customer arrearages over 60 days. The Vermont Emergency Rental Assistance Program (VRAP) has had an effect; arrearages decreased approximately 3% in November and again by 2% in December. Total arrearages over 60 days, however, are still approximately \$1M, which impacts our cash balance. The arrearages are not reflected in revenues because we have already booked the revenue (having delivered the electricity and billed the customer) but have not yet received payment.

Mr. Springer stated that the Department does have \$1.3M in ARPA funds from the City and is continuing to have the Customer Care Team work with customers to take advantage of the state funds as much as possible. In the spring, the Department will evaluate when it is time to reinstate disconnects for nonpayment as BED has gone well beyond the PUC moratorium period. We want to get through the winter but will probably join the other utilities and will work in coordination with the Water Department to resume disconnects at that time. We will then use the ARPA funds to try to clear the remaining balance of COVID arrearages as much as possible.

7. Commissioners' Check-In

Commissioner Herendeen asked how long it takes to put 10 kWh into a car using a slow charger and a fast charger.

Mr. Springer stated that it depends on the car, but that if you are using a level one charger and you were trying to get 10 kWh, it might take approximately 6-7 hours. If you are using a level two charger with a 60-70W battery, it might take 1-2 hours.

Commissioner Moody made a motion to adjourn; the motion was seconded by Commissioner Chagnon.


The Board Clerk, Laurie Lemieux, conducted a roll call vote by calling on the following Commissioners:

Commissioner Chagnon. Aye
Commissioner Herendeen. Aye
Commissioner Moody. Aye
Commissioner Stebbins. Aye
Commissioner Whitaker. Aye

Results: 5 Ayes with 0 Nays, the motion carries.

The meeting of the Burlington Electric Commission adjourned at 7:19 p.m.

Attest:



Laurie Lemieux, Board Clerk



*FY 2022
Financial Review
December*

February 1, 2022

Burlington Electric Department Financial Review

FY 2022

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FINANCIAL HIGHLIGHTS – BUDGET VS ACTUAL as of December FY22

(\$000)	Full Yr Budget	CURRENT MONTH			YEAR TO DATE		
		Budget	Actual	Variance	Budget	Actual	Variance
Sales to Customers	48,172	4,344	4,254	(90)	24,735	24,631	(105)
Other Revenues	3,978	350	297	(53)	1,921	1,520	(402)
Power Supply Revenues	8,404	0	0	0	4,175	4,346	171
Total Operating Revenues	60,554	4,694	4,551	(143)	30,832	30,496	(335)
Power Supply Expenses	32,155	2,844	2,602	242	15,969	15,309	660
Operating Expense	21,543	1,719	1,444	276	10,200	9,293	908
Depreciation & Amortization	6,007	501	512	(11)	3,004	3,071	(68)
Gain/Loss on Disp of Plant	291	0	(27)	27	143	103	40
Taxes	3,935	328	263	65	1,973	1,654	319
Sub-Total Expenses	63,932	5,392	4,793	599	31,289	29,430	1,859
Operating Income	(3,378)	(698)	(242)	456	(458)	1,066	1,524
Other Income	6,588	482	369	(113)	3,993	2,243	(1,750)
Interest Expense	2,402	201	189	12	1,190	1,163	27
Net Income (Loss)	808	(417)	(63)	355	2,345	2,146	(198)

Year-to-Date Results:

- **Sales to Customers** down \$105,000 (within .42% of budget). Residential Sales up \$456,500 and Non-Residential Sales down, \$547,000.
- **Other Revenues** down \$402,000 (21%)
 - a. DSM billable (customer driven) down \$341,900.
- **Power Supply Revenues** up \$171,000 (4%)
 - a. McNeil REC revenue of \$2,410,000 compared to a budget of \$1,953,000.
 - b. Wind REC revenue of \$1,538,000 compared to a budget of \$1,677,000.
 - c. Hydro REC revenue of \$324,000 compared to a budget of \$447,000.
 - d. Other REC revenue of \$74,000 compared to a budget of \$98,000.
- **Power Supply Expenses** down \$660,000 (4%)
 - a. Purchased Power down \$235,000.
 - b. Transmission Fees down \$197,000.
 - c. Fuel down \$229,000.
- **Taxes** down \$319,000 (16%)
 - 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 \$908,000 (8.9%)
 - a. Various items are less than budget. This includes outside services (\$455,000), materials & supplies (\$110,000), DSM (rebates & outside services) (\$97,000), transportation clearing & building Clearing, (\$78,400) and uncollectible accounts (\$54,600). Offset by higher expense due to the credit for A&G (“Admin and General Expenses”) charged to Capital projects was less than planned, \$274,800.
- **Other Income** down \$1,750,000
 - a. Budget assumed \$750,000 of ARPA. Also, assumed customer contributions for Shelburne Road roundabout relocation, \$616,700, UVM LCOM, \$116,200 & Champlain Pkwy, \$303,800.

FINANCIAL HIGHLIGHTS – BUDGET VS ACTUAL as of December FY22

Capital Spending – December YTD (\$000's)				
Plant Type	Full Yr. Budget	Budget	Actual	% Spent
Production	\$1,017	\$553	\$193	19%
Other	192	115	0	0%
Transmission	1,150	0	0	0%
Distribution	3,577	2,181	1,530	43%
General	2,034	864	353	17%
Total	\$7,970	\$4,863	\$2,076	26%

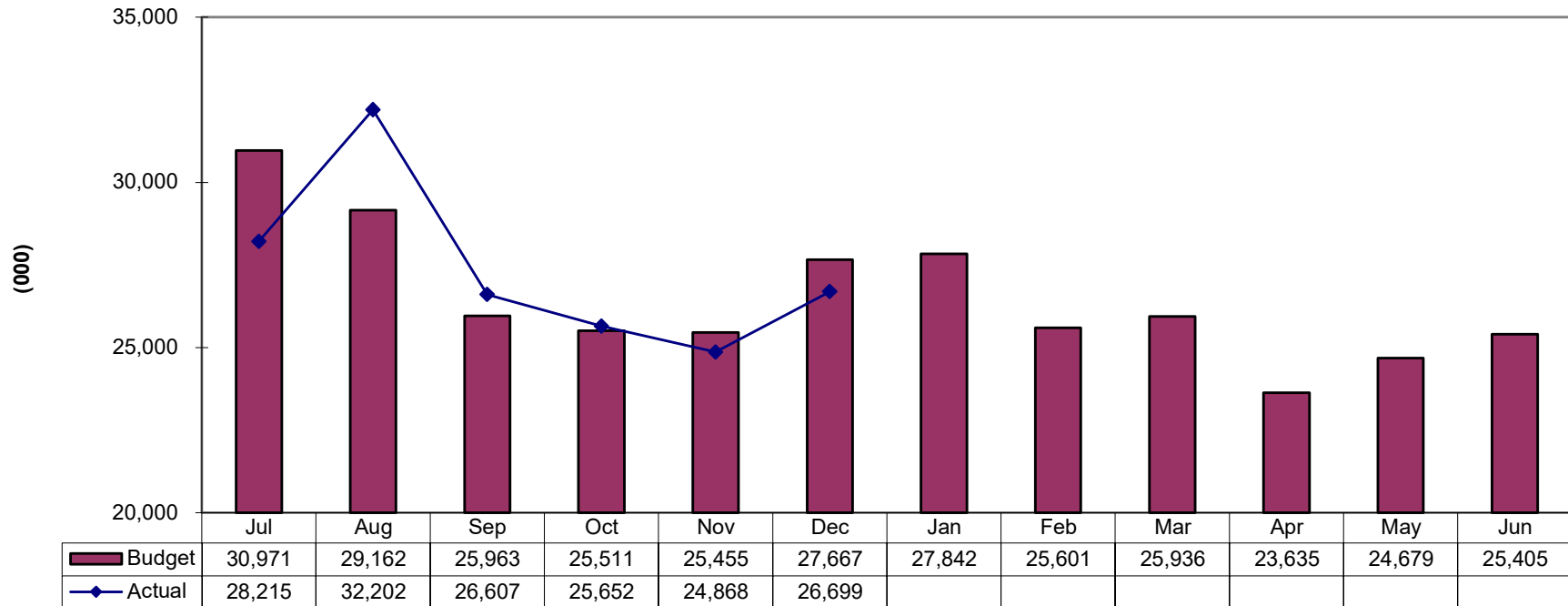
- (1) **Production** – Timing of projects at McNeil, \$58,700 and Gas Turbine, \$98,400. The unit #3 bearing replacement budgeted for Winooski One will not happen this fiscal year, \$125,000.
- (2) **Other** – Timing; budget includes Level 2 & 3 chargers, Packetized Energy, and research & development.
- (3) **Distribution** – Timing of various projects.
- (4) **General** – IT Forward project was budgeted throughout the year; YTD expenses of \$289,600 compared to a budget of \$614,8000. Pole mount routers YTD expenses of \$5,300 vs budget of \$67,500. Electric Bucket Truck replacement was budgeted throughout the year, delivery has been delayed until July 2022.

As of December 31, 2021 Cash and Investments	
Operating Funds	\$8,313,600
Operating Fund – CDs	\$1,160,600
Total Operating Fund	\$9,474,200

Credit Rating Factors				
	"A"	"Baa"	Current	3 Year Average
Debt Service Coverage Ratio	1.25	1.25	4.80	3.77
Adjusted Debt Service Coverage Ratio	1.50	1.10	1.27	0.93
Cash Coverage - Days Cash on Hand	90	30	129	126

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

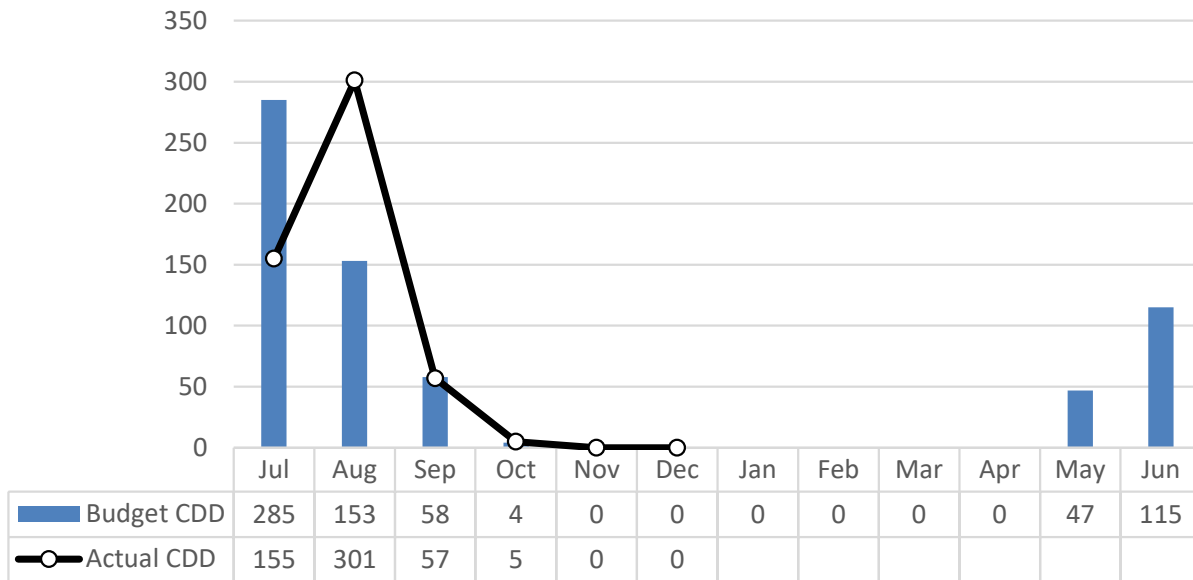
**Total Sales to Customers - KWH
Monthly**



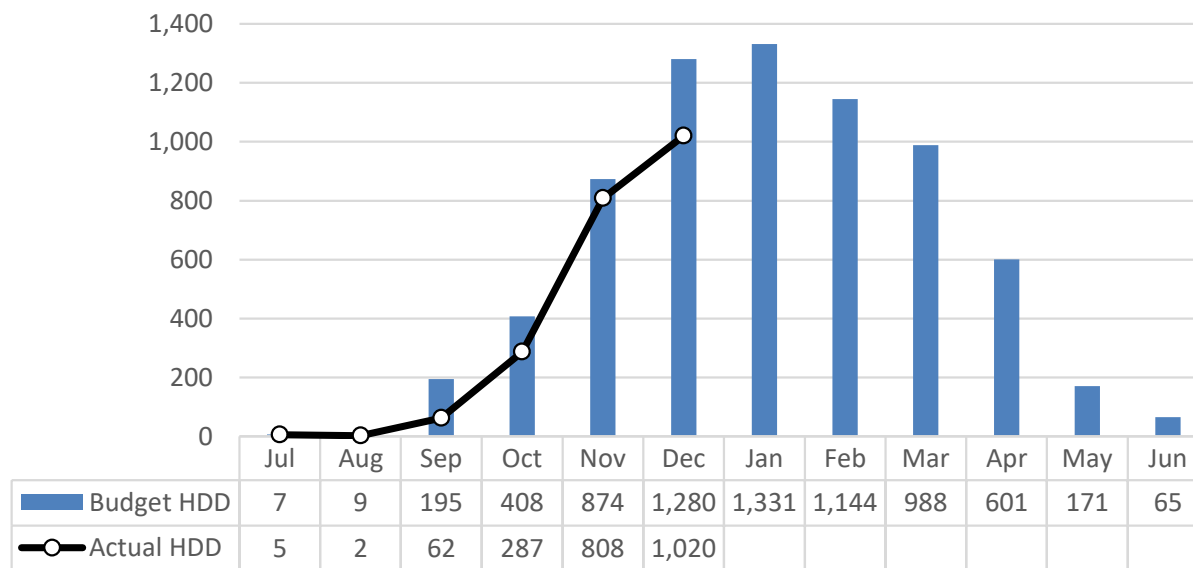
KWH Sales to Customers (YTD)												
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Budget	30,971	60,134	86,097	111,608	137,063	164,730	192,571	218,172	244,108	267,743	292,422	317,827
Actual	28,215	60,417	87,024	112,676	137,544	164,243						

FY 2022

Cooling Degree Days (CDD)

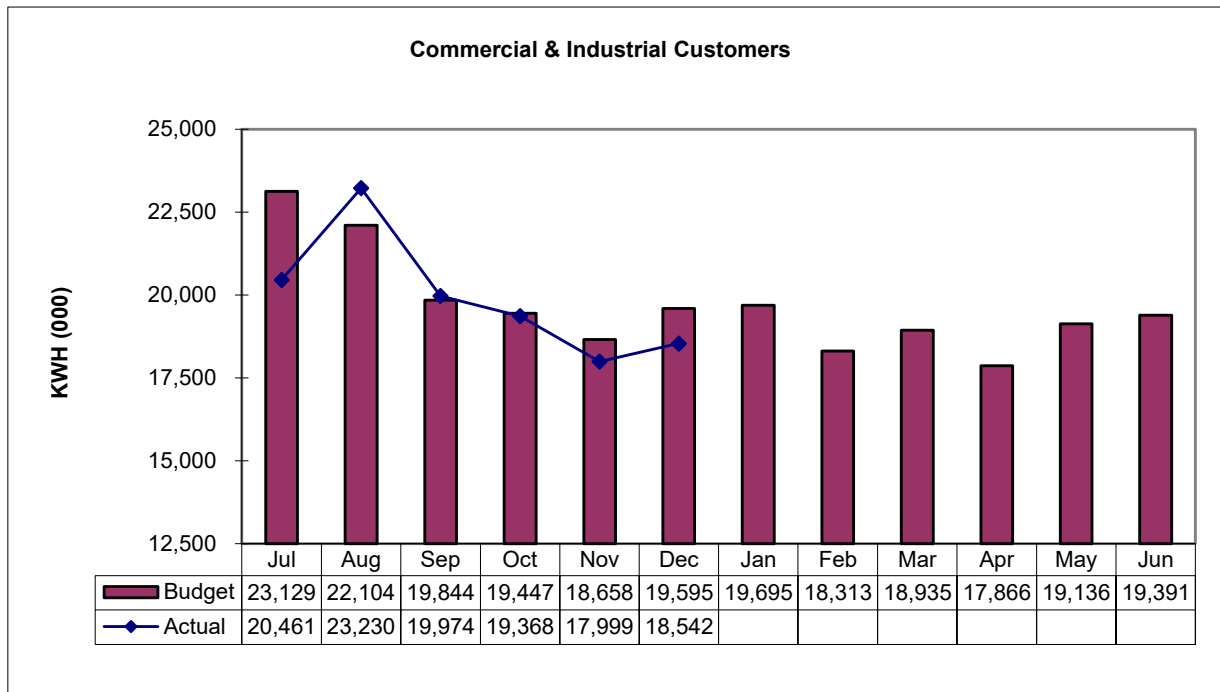
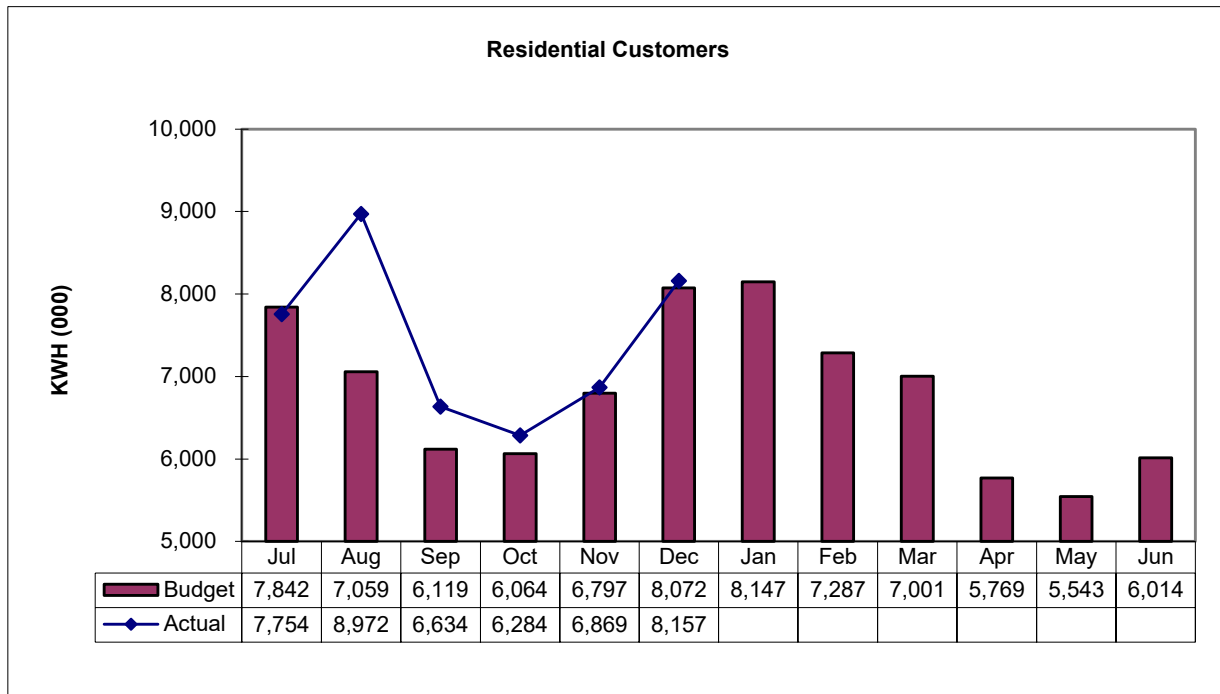


Heating Degree Days (HDD)



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
December - FY 2022**

	(\$000)						
	Current Month				Year-to-Date		
	Budget	Actual	Variance		Budget	Actual	Variance
Expenses:							
Fuel (p. 7)	\$1,040	\$910	\$130	(1)	\$4,240	\$4,011	\$229 (1)
Purchased Power (p.11)	1,004	971	33	(2)	7,477	7,242	235 (2)
Transmission Fees - ISO	533	545	(12)	(3)	3,367	3,717	(350) (3)
Transmission Fees - Velco	203	104	100	(4)	569	16	553 (4)
Transmission Fees - Other	64	72	(9)		317	322	(6)
Total Expenses	2,844	2,602	242		15,969	15,309	660
Revenues:							
Renewable Energy Certificates - McNeil	0	0	0		1,953	2,410	457
Renewable Energy Certificates - Wind	0	0	0		1,677	1,538	(139)
Renewable Energy Certificates - Hydro	0	0	0		447	324	(123)
Renewable Energy Certificates - Other	0	0	0		98	74	(24)
Total Revenues	0	0	0		4,175	4,346	171 (5)
Net Power Supply Costs	2,844	2,602	242		11,794	10,963	831
Load (MWh)	28,044	27,334	(710)		167,308	168,583	1,274
\$/MWh	\$101.41	\$95.20	(\$6.22)		\$70.49	\$65.03	(\$5.46)

Current Month:

(1) See detail on page 7.

(2) See detail on page 11.

(3) ISO-NE Transmission over Budget due to higher ISO-NE Transmission rates.

(4) VELCO Transmission under Budget due to lower 91 VTA Common charges, primarily for the return of accumulated deferred income tax for 2020 and 2021.

YTD:

(1) See detail on page 7.

(2) See detail on page 11.

(3) ISO-NE Transmission over Budget due to higher ISO-NE Transmission 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) RECs expected to come in 6% under Budget due to under Budget Wind and Hydro Production

**Net Power Supply Costs
December - 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>FUEL:</u>								
McNeil:								
Fuel Consumed	753	659	94	(1)	2,942	2,813	128	(1)
Swanton Yard	67	79	(13)	(1)	259	338	(79)	(1)
Train Deliveries	137	118	19	(1)	527	490	37	(1)
Labor & Other Expenses	72	49	23	(2)	449	298	152	(2)
Total McNeil Fuel	<u>1,029</u>	<u>905</u>	<u>124</u>		<u>4,176</u>	<u>3,939</u>	<u>237</u>	
Gas Turbine	11	5	6	(3)	64	72	(8)	(3)
Total Fuel	<u><u>1,040</u></u>	<u><u>910</u></u>	<u><u>130</u></u>		<u><u>4,240</u></u>	<u><u>4,011</u></u>	<u><u>229</u></u>	

Current Month:

(1) McNeil produced 15,066 MWh (14% under 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 15 MWh (60% under Budget).

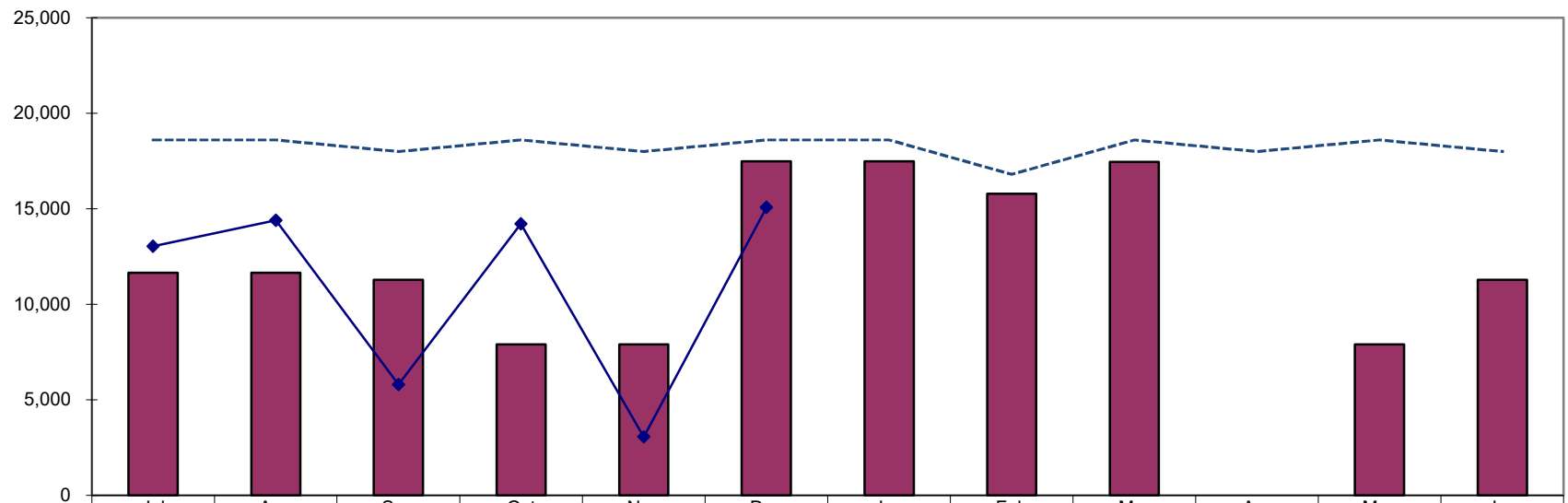
YTD:

(1) McNeil production 3% under Budget. Woodchip costs (per ton) were 1% under Budget. (p. 9)

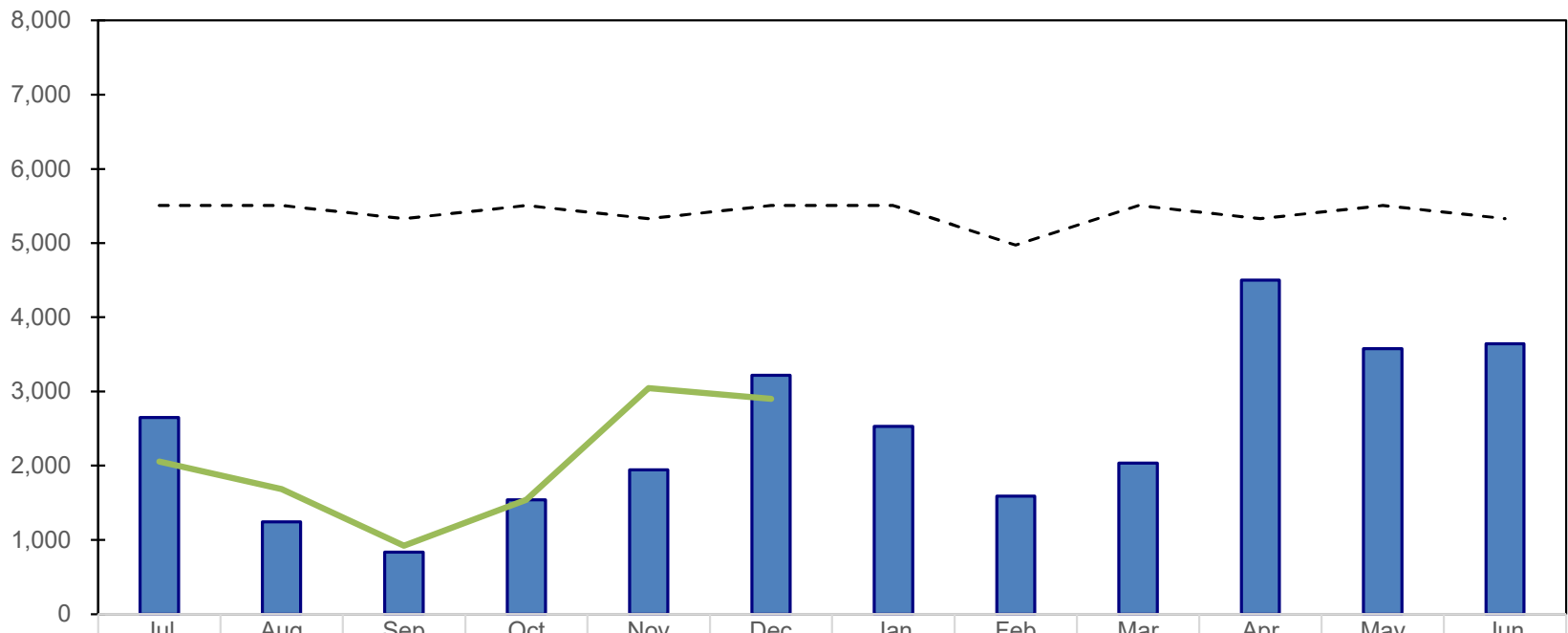
(2) See Current Month.

(3) GT produced 243 MWh (15% over Budget).

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

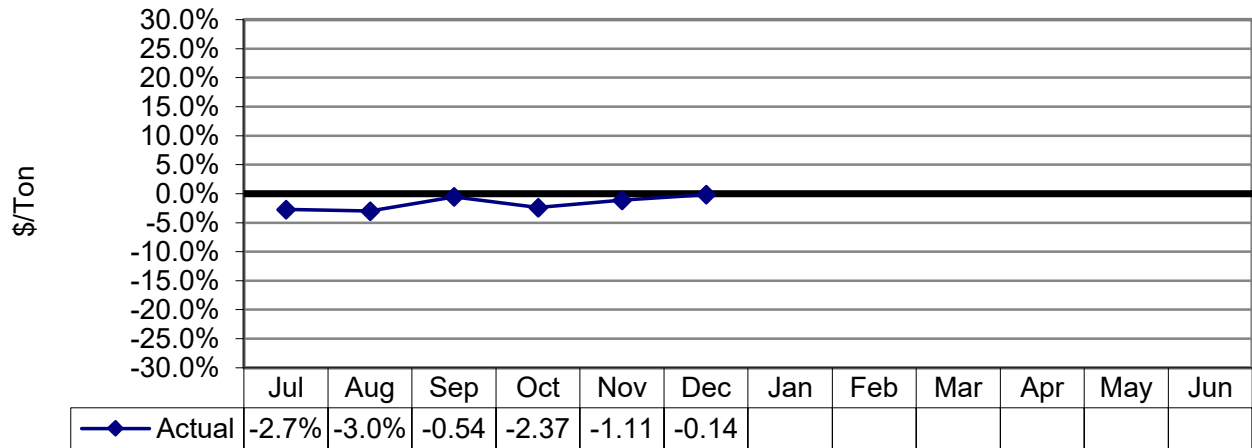


**Burlington Electric Department
Winooski One - MWH Production
FY 2022**

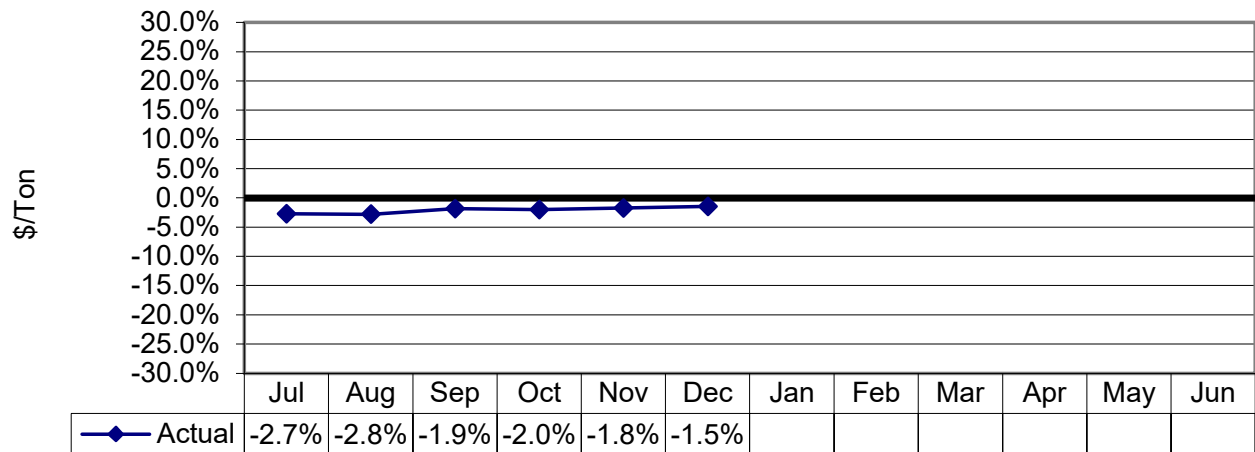


Burlington Electric Department Fiscal Year 2022

Woodchips Price Per Ton Monthly Variance



Woodchips Price Per Ton Year-to-Date Variance



* Wood only. Does not include other costs.

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

	(\$000)						
	Current Month			Year-to-Date			
	Budget	Actual	Variance	Budget	Actual	Variance	
<u>PURCHASED POWER:</u>							
Non-Energy (capacity)	100	113	(13)	687	813	(126)	
Energy:							
Georgia Mountain Wind	302	298	4	1,630	1,227	403	(1)
Hancock Wind	361	243	118	1,581	1,017	564	(2)
VT Wind	254	286	(32)	1,205	1,059	145	(3)
Hydro Quebec	245	254	(10)	1,378	1,398	(20)	(4)
Great River Hydro	169	169	0	1,003	1,002	1	
In City Solar Generators	26	28	(2)	422	405	17	
NYPA	7	8	(1)	38	52	(14)	
VEPPI	0	0	0	0	0	0	
ISO Exchange	(504)	(497)	(7)	(798)	(61)	(737)	(5)
Velco Exchange	0	(1)	1	0	(4)	4	
Total Energy	860	790	70	6,460	6,096	364	
Ancillary Charges	1	5	(4)	21	(11)	32	
Miscellaneous	43	63	(20)	308	344	(36)	
Total Purchased Power Expense	<u>1,004</u>	<u>971</u>	<u>33</u>	<u>7,477</u>	<u>7,242</u>	<u>235</u>	

Current Month:

(1) Production 17% under Budget. Rate 19% under Budget due to Financial Adjustment. Lower CY21 production will result in lower REC revenues later in FY22

(2) Production 13% over Budget.

(3) Rate 4% over Budget.

YTD:

(1) Production 25% under Budget. Lower CY21 production will result in lower REC revenues in FY22. (Fourth turbine back on line 11/18)

(2) Production 24% under Budget. Rate 15% under Budget due to Financial Adjustment. Lower CY21 production will result in lower REC revenues later in FY22.

(3) Production 12% under Budget. Lower CY21 production will result in lower REC revenues in FY22.

(4) Rate 1% over Budget.

(5) McNeil (3%) and Wind (20%) Production under Budget.

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

Description	Budget	Actual	Variance	% Variance	*
Labor-Regular	4,115,669	3,911,086	204,583	5%	
Labor-Overtime	251,670	275,571	(23,901)	9%	
Labor-Temporary	5,500	0	5,500	100%	a
Labor-Overhead	1,570,483	1,547,536	22,947	1%	b
Outside Services	1,285,508	830,427	455,081	35%	c
DSM (rebates & outside services)	1,016,497	919,266	97,231	10%	d
Materials & Supplies	422,905	313,220	109,685	26%	e
Insurance	360,102	289,171	70,931	20%	
A & G Clearing	(457,768)	(182,947)	(274,821)	60%	f
Other - RPS Compliance	324,879	527,914	(203,035)	62%	
Other	1,305,144	861,616	443,528	34%	g
Operating and Maintenance Expense	10,200,588	9,292,860	907,728	9%	

(a) Policy & Planning assumed intern positions in July & December.

(b) See page 13.

(c) Timing of various items; GT & W1 (\$101,000), McNeil Plant (\$34,000), tree trimming (\$61,000), assumed DPS billback expense due to rate case (\$209,000) and REC Broker commission fees (\$43,400).

(d) 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.

(e) Timing; Distribution (\$35,100), McNeil Plant (\$14,700) & Safety (\$14,300).

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

(g) Timing: various areas are less than budget including; Transportation Clearing (\$31,600), Building Clearing, (\$46,800), Dues & Fees (\$15,700), Utilities (\$27,000) and Uncollectible Accounts (\$54,600).

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

Labor - Overhead	(000's)				
	Budget	Actual	Variance	%	
Pension	\$759	\$725	\$34	4%	(a)
Medical Insurance	751	752	(1)	0%	(b)
Social Security Taxes	471	414	57	12%	(a)
Workers Compensation Ins.	172	176	(4)	-2%	(b)
Dental Insurance	46	44	3	6%	(b)
Life Insurance	11	10	1	10%	(b)
	\$2,211	\$2,120	\$90	4%	

Rates Table:		Budget
<i>Pension</i>		13.11%
<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 - December (\$000)

		Current Month			Year - To - Date		
	Ref	Budget	Actual	Variance	Budget	Actual	Variance
Operating Revenues							
Sales to Customers	p.3	4,344	4,254	(90)	24,735	24,631	(105)
Other Revenues		350	297	(53) (a)	1,921	1,520	(402) (a)
Total Operating Revenues		4,694	4,551	(143)	26,657	26,150	(506)
Net Power Supply							
	p.6	2,844	2,602	242	11,794	10,963	831
Operating Expenses							
Operating and Maintenance	p.12	1,719	1,444	276	10,200	9,293	908
Depreciation & Amortization		501	512	(11)	3,004	3,071	(68)
Gain/Loss on Disp of Plant		0	(27)	27 (b)	143	103	40 (b)
Revenue Taxes		46	43	3	286	282	4
Property Taxes Winooski One		42	41	1	253	247	5
Payment In Lieu of Taxes		239	178	61 (c)	1,435	1,126	310 (c)
Total Operating Expenses		2,548	2,191	357	15,320	14,121	1,199
Other Income and Deductions							
Interest/Investment Income		4	5	1	27	31	4
Dividends		360	358	(2)	2,161	2,165	4
Customer Contributions/Grants		123	0	(123) (d)	1,788	48	(1,740) (d)
Other		(5)	5	11	16	(0)	(17)
Total Other Income & Deductions		482	369	(113)	3,993	2,243	(1,750)
Interest Expense							
		201	189	12	1,190	1,163	27
Net Income							
		(417)	(63)	355	2,345	2,146	(198)

Current Month:

- (a) Energy Efficiency Program cost reimbursement was less than planned, \$42,600.
(b) Timing; retirements budgeted in August & February. December includes favorable inventory adjustment.
(c) Actual includes city reappraisal.
(d) Budget assumed customer contributions for Shelburne Road roundabout relocation, \$30,800, and Champlain Pkwy, \$91,100.

Year - To - Date:

- (a) Energy Efficiency Program cost reimbursement was less than planned, \$341,900.
(b) See current month.
(c) See current month.
(d) 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, \$303,800. Actual includes other billable.

**Burlington Electric Department
Capital Projects - FY22**

	\$000			
	Full Year Budget	Budget	December Actual	Variance
McNeil (BED 50% Share)				
ESP Mechanical Field Rebuild	225		46	(46)
Routine Station Improvements	107	43	1	42
Backup Boiler Feed Pump/Insurance	103	103	131	(28)
Turbine Control System Upgrade/Insurance	37			0
Augers Replaced	30	30		30
Elevator Geared Equipment & Controls	25			0
Turbine Extraction Valve Actuators	20	20		20
Belt Fire Suppression/Insurance	17			0
Cooling Tower Fill Drift Eliminators	15			0
Disc Screen	15			0
Chemical Feed Pump Replacement/Upgrade	15			0
ESP Wire Replacement	13		1	(1)
Safety Valve Replacements	12			0
GSU Transformer	11	11		11
Analyzer Upgrades for Chemical Treatment	9	9	8	1
Char Ash Conveyor	10	10		10
Station Tools & Tool Boxes	7	4		4
DC Lube Oil Pump Contractor Upgrade/Insurance			2	(2)
Other	24	19	1	17 (a)
Total McNeil Plant	697	248	190	59
 (a) Budget includes energy efficiency improvements, farmhouse repair, probe ladder, perimeter fence upgrade, radio upgrades, rigging equipment and office equipment. Actual includes computer replacement.				
Hydro Production	221	206	3	202 (a)
 (a) Budget assumed Unit #3 bearing replacement, \$125,000. Project will not happen in this FY.				
Gas Turbine	98	98	0	98
Total Production Plant	1,017	553	193	359
 Other				
Direct Current Fast Charger (Level 3)	85	51		51
Packetized Energy	52	31		31
Public Level 2 EV Charge	33	20		20
Policy & Planning Research & Dev	21	12		12
Total Other	192	115	0	115
 Transmission Plant				
VT Transco Investment	1,150	1,150		1,150 (a)
Total Transmission Plant	1,150	1,150	0	1,150

(a) Deferred.

**Burlington Electric Department
Capital Projects - FY22**

	\$000			
	Full Year Budget	Budget	December Actual	Variance
Distribution Plant-General				
Aerial				
Scarff Avenue Rebuild	701	455	621	(165)
Appletree Point Rebuild	258	258	4	254
1L4 P3149 to P3169 Reconductor	162	24	9	16
1L4 P3132 to P3149 Reconductor	140	133	52	81
Replace Condemned Poles	118		3	(3)
Replace Recloser 252R	48	48		48 (a)
227S Automation	47	47		47
Ferguson Ave, Wells St			39	(39) (b)
Rebuild 3L4 Long Spans			28	(28) (b)
Rebuild 1L4 Long Spans PH2			7	(7) (b)
3L1 Circ P396 to P404			6	(6)
Total Aerial	1,474	966	767	199

(a) Revenue bond project, changed to 234R, to be completed in January.

(b) FY21 project that was delayed.

Underground

Replace Switch (756,757,758,730-Battery/Pearl St)	204		3	(3)
Replace Switch (303,307,308,309-Main/S Prospect)	137		1	(1)
Replace UG Switch (821,401,727,349,233)			53	(53) (a)
Replace UG Switch (731,736,760,761)			16	(16) (a)
Shelburne St-Rep Sec p323-328			19	(19) (b)
Starr Farm Beach-Conv 2 ph			13	(13) (b)
Replace 234R - North Avenue			37	(37) (c)
Total Underground	341	0	142	(142)

(a) Additional work from FY21.

(b) New project added.

(c) Revenue bond project, changed from 252R.

Customer Driven/City Projects

Champlain Parkway C6	644	322		322 (a)
Champlain Parkway C6 (CAFC)	(608)	(304)		(304) (a)
UVM LCOM Project (Larner College of Medicine)	391	391	14	376
UVM LCOM Project (CAFC)	(116)	(116)		(116)
UVM Athletic Facility	101	101	17	84
Shelburne St Roundabout Relocation	630	630	7	623
Shelburne St Roundabout Relocation (CAFC)	(617)	(617)		(617)
Total Underground	425	407	39	368

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

**Burlington Electric Department
Capital Projects - FY22**

	\$000			
	Full Year Budget	Budget	December Actual	Variance
Other				
SCADA Networking Upgrade/Firewall Replacement	296	296	2	294
Distribution Transformers	194	116	238	(122)
SCADA Network Switches Replacement	98			0
Field Device Network Upgrades	67	67	15	51
Communication Equipment Emergency Repair	27	8	2	6
SCADA Servers Virtualization	0		6	(6)
Other			13	(13)
Total Other	682	487	276	211
Total Distribution Plant-General	2,922	1,859	1,224	636
Distribution Plant - Blanket				
Lighting	159	51	127	(76)
Lighting (Rebate)	(6)	(2)		(2)
Underground	194	108	140	(32)
Underground (CAFC)			(23)	23
Aerial	106	53	49	3
Aerial (CAFC)			(17)	17
Meters	125	77	5	73
Gas Detectors	4		4	(4)
Tools & Equipment - Distribution/Technicians	30	15	16	(1)
Substation Maintenance	16	5		5
Replace Corroded Vista CT's/PT's	20	7	5	2
Substation-Temperature Alarms	8	8		8
Total Distribution Plant - Blanket	655	322	306	15
Total Distribution Plant	3,577	2,181	1,530	651

**Burlington Electric Department
Capital Projects - FY22**

	\$000			
	Full Year Budget	Budget	December Actual	Variance
General Plant				
Computer Equipment/Software	1,806	784	320	464 (a)
Vehicle Replacement	165	17		17 (b)
Buildings & Grounds	55	55	33	22 (c)
Other	8	8	0	8 (d)
Total General Plant	2,034	864	353	510

(a) Budget includes IT Forward, \$614,800, Lake Street Network switch replacement, \$37,000, OpenWay upgrade, \$24,600 and Pole Mount Routers, \$67,500. Actual includes IT Forward, \$289,600 Shared Data Center, \$9,400 and Pole Mount Routers, \$5,300.

(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 July 2022.

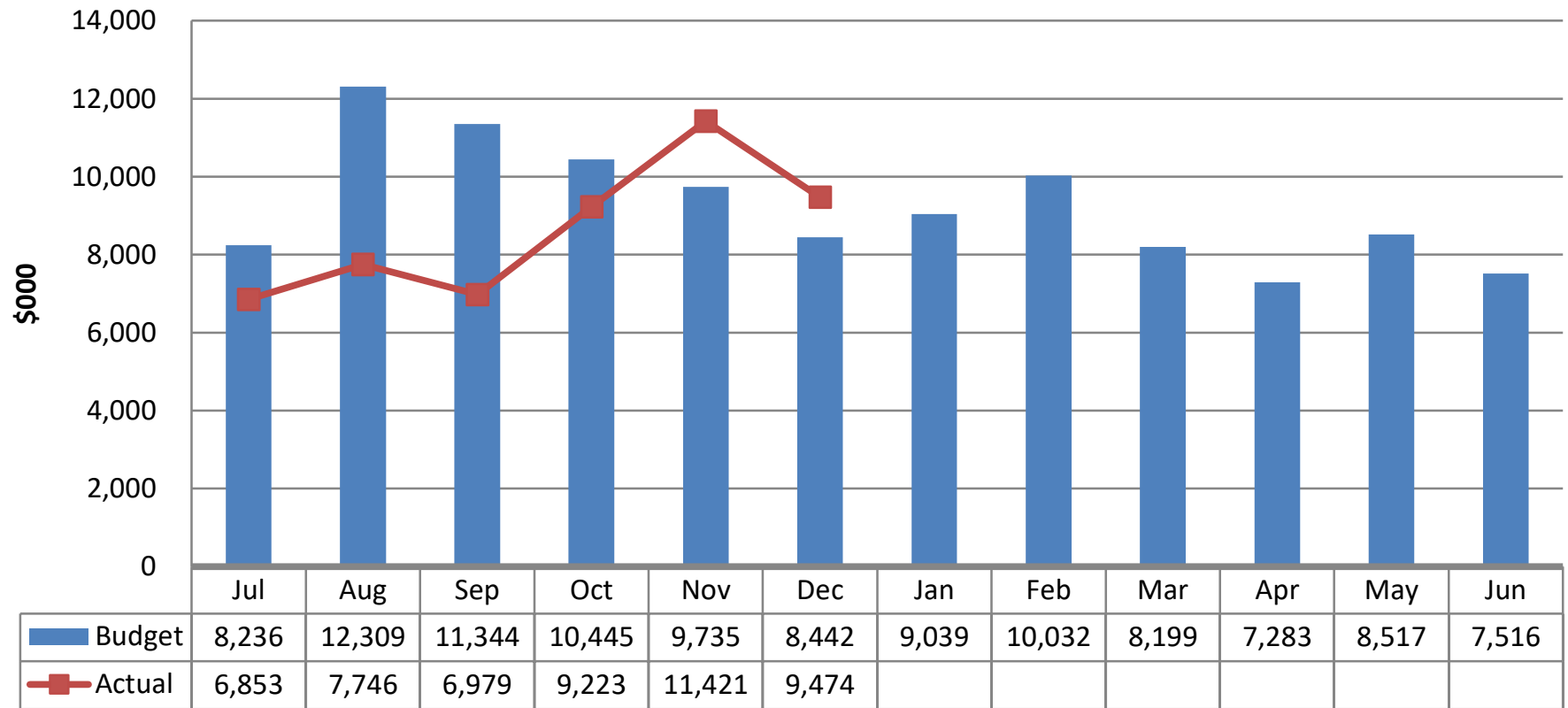
(c) Budget includes fence for solar array, \$19,000, Dispatch AC, \$14,000, security cameras, \$13,000, sign replacements, \$5,000 and ID printer, \$4,000. Actual includes dispatch AC relocation, ID printer replacement and chair for system operations.

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

Sub-Total Plant	\$7,970	\$4,863	\$2,076	\$2,787
Add: CAFC* reclass to "Other Income"	1,346	1,038	40	998
Total Plant	\$9,316	\$5,901	\$2,116	\$3,785

* Customer Advances (Contributions) for Construction.

Operating Cash - FY 2022 Monthly Ending Balance



Resolution Relating to

**AUTHORIZATION FOR BURLINGTON ELECTRIC
DEPARTMENT REVENUE BONDS FOR NET ZERO
ENERGY PROJECTS**

RESOLUTION_____

Sponsor(s): Bd. of Finance
Introduced: _____
Referred to: _____

Action: _____
Date: _____
Signed by Mayor: _____

CITY OF BURLINGTON

In the year Two Thousand Twenty-Two

Resolved by the City Council of the City of Burlington, as follows:

1 That WHEREAS, the City of Burlington (the “City”) and the Burlington Electric Department (“BED”) have
2 previously adopted a goal to reduce and eventually eliminate fossil fuel usage in heating and ground
3 transportation (the “Net Zero Energy Goal”), as set forth in that Net Zero Energy Roadmap, dated September
4 5, 2019; and

5 WHEREAS, the City and BED identified the need for various capital improvements to implement the
6 City’s Net Zero Energy Goal, including technology system upgrades to further support and automate rate
7 design and service delivery, electric grid updates to meet increased electricity needs resulting from greater
8 strategic electrification and to ensure the continued reliability of BED’s current distribution system, generation
9 plant upgrades and maintenance, and acquisition of and investment in municipal electric vehicles and vehicle
10 charging stations; and

11 WHEREAS, the City has determined that the costs of such improvements are too great to be paid out
12 of the ordinary annual income and revenue of BED and that, in order to fund the costs of such capital
13 improvements, it will be necessary to incur indebtedness for that purpose; and

14 WHEREAS, it is expected that these improvements will benefit current and future ratepayers, the City
15 and the general public; and

16 WHEREAS, at a special meeting of the voters of the City held on December 7, 2021, the voters of the
17 City approved the issuance of Electric Department Revenue Bonds, in an amount not to exceed \$20,000,000,
18 to finance various capital additions and improvements to the City’s electric system, and energy conservation
19 systems, in furtherance of the City’s Net Zero Energy goals, including (i) improvements to the City’s
20 technology systems, customer and financial information systems, electric grid upgrades, electricity generation
21 plants and dams (the “Project”), and (ii) funding the debt service reserve fund and paying costs of issuance of
22 such bonds; and

23 WHEREAS, in order to implement amendments to the BED General Bond Resolution to extend the
24 due date for delivery of the annual audited financial statements of BED and make changes to the definition of

25 Electric Plant, BED has adopted Supplemental Resolution No. 16 to the General Bond Resolution to make
26 such changes, subject to receipt of approval of not less than 66-2/3rds of the holders of outstanding bonds; and

27 WHEREAS, at its meeting held February 9, 2022, the Board of Commissioners of BED has approved
28 Supplemental Resolution No. 16 and Supplemental Resolution No. 17 providing for the issuance of the BED
29 revenue bonds for the Project and the financing thereof; and

30 WHEREAS, pursuant to Section 228 and Sections 431- through 449 (inclusive) of the City Charter
31 (the “Act”), the City Council has the authority to issue revenue bonds for BED and the financing of the Project
32 and improvements to the City’s electric plant;

33 NOW THEREFORE, BE IT RESOLVED that pursuant to the Act under the City Charter, as amended,
34 the City Council hereby approves the issuance of electric revenue bonds, to be issued in one or more series
35 (referred to as the 2022 Series A Bonds), in the aggregate principal amount not exceeding \$20,000,000 (the
36 “Bonds”) for the Project and the funding of the debt service reserve fund and paying costs of issuance of the
37 Series 2022 A Bonds; and

38 BE IT FURTHER RESOLVED, that in order to authorize the issuance of such Bonds under the BED
39 General Bond Resolution adopted October 7, 1981 (as amended to the date hereof, the “General Bond
40 Resolution”), the City Council hereby approves: (1) Supplemental Resolution No. 16, adopted by the Board of
41 Electric Commissioners (the “BED Board”) amending the General Bond Resolution, a copy of which is
42 attached hereto (“Supplemental Resolution No. 16”), and (2) Supplemental Resolution No. 17, adopted by the
43 BED Board for the issuance of the Bonds, a copy of which is attached hereto (“Supplemental Resolution No.
44 17”), and authorizes the series certificate referenced in Supplemental Resolution No. 17, to be executed and
45 delivered by the General Manager of BED and the Mayor, Chief Administrative Officer, or Director of
46 Financial Operations (the “Series Certificate”) to be delivered prior to the issuance of the Bonds as provided in
47 Supplemental Resolution No. 17, each with such changes and completion of information as may be approved
48 by the Mayor, the Chief Administrative Officer, the Director of Financial Operations, or the General Manager
49 of BED; and

50 BE IT FURTHER RESOLVED that in the event that the true interest cost of the 2022 Series A Bonds
51 would exceed Four and one-half Percent (4.50%) per annum, the prior approval of the Board of Finance of the
52 City Council shall be required for the issuance of the Bonds; and

53 BE IT FURTHER RESOLVED that the Mayor, the Chief Administrative Officer, the Director of
54 Financial Operations, and the General Manager of BED are, and each one of them is, hereby authorized and

55 directed to prepare one or more Official Statements of the City as they deem necessary in the City's best
56 interest. The Mayor, the Chief Administrative Officer, the Director of Financial Operations, and the General
57 Manager of BED are, and each one of them is, hereby authorized to execute and deliver one or more final
58 Official Statement and to execute and deliver such agreements, including one or more bond purchase
59 agreement with the underwriter or underwriters for the Bonds, continuing disclosure certificates, certificates as
60 to use of proceeds, the Series Certificate, and all other documents, agreements and instruments necessary or
61 convenient in connection with the issuance of the Bonds; and

62 BE IT FURTHER RESOLVED that, if in the opinion of the Chief Administrative Officer or the
63 General Manager of BED, it is desirable and in the City's best interest to obtain bond insurance for the Bonds,
64 the Mayor, the Chief Administrative Officer, the Director of Financial Operations, and the General Manager
65 of BED are, and each one of them is, hereby authorized, to enter into such agreements and instruments with
66 the bond insurer in order to obtain bond insurance for the Bonds.

67

68

CITY OF BURLINGTON, VERMONT

Board of Electric Commissioners

SUPPLEMENTAL RESOLUTION NO. 16

Be it Resolved by the Board of Electric Commissioners (the “Board”) of the City of Burlington, Vermont (the “City”) as follows:

Section 1. Amendment to General Bond Resolution. The Board has heretofore authorized and issued \$4,010,000 Electric System Revenue Refunding Bonds, 2017 Series A (the “Series 2017A Bonds”), \$5,410,000 Taxable Electric System Revenue Refunding Bonds, 2017 Series B (the “Series 2017B Bonds”), \$12,000,000 Electric System Revenue Bonds, 2014 Series A (the “Series 2014A Bonds”), and the \$5,820,000 Electric System Revenue Refunding Bonds, 2014 Series B (the “Series 2014B Bonds” and, together with the Series 2017A Bonds, the Series 2017B Bonds, and the Series 2014A Bonds, and all future series of bonds issued under the Resolution (as defined below), the “Outstanding Bonds”). The Board presently expects to issue \$20,000,000 of its Electric System Revenue Bonds, 2022 Series A (the “Series 2022A Bonds”) to fund various capital projects in furtherance of its Net Zero Energy Plan as authorized by the voters of the City on December 7, 2021.

The Board hereby authorizes the amendment of the General Bond Resolution (as defined below), subject to the requisite consent and approval by the Owners of the Outstanding Bonds, as required under Section 9.2 of the General Bond Resolution (defined below).

Section 2. Definitions.

(a) Except as provided herein or unless the context clearly indicates some other meaning, the terms used in this Supplemental Resolution which are defined in the General Bond Resolution (the “General Bond Resolution”) adopted by the Board on October 7, 1981, as amended and supplemented, have the same meaning in this Supplemental Resolution as in the General Bond Resolution. The General Bond Resolution as amended or supplemented from time to time by Supplemental Resolutions is hereinafter referred to as the “Resolution.”

Section 3. General Bond Resolution Amended. Pursuant to Section 9.2 of the Resolution, on and as of the Effective Date (as defined below), the Resolution is hereby amended as follows:

(a) Section 7.8 of the Resolution is amended by deleting the phrase “one hundred twenty (120) days after the end of each Fiscal Year” from the second sentence thereof and replacing it with “one hundred eighty (180) days after the end of each Fiscal Year”.

(b) Section 1.1(GG) of the Resolution is amended and restated as follows:

“Project” means any improvement, extension, betterment, addition, alteration, reconstruction, extraordinary repair, equipping or reequipping of or to the Electric Plant, or any one or more of the foregoing. To the extent permitted by law, a Project

may also consist of or include (i) prepayment for or purchased capacity or output of electric power supply or transmission facilities; (ii) decommissioning or termination of facilities; and (iii) energy transformation and/or energy efficiency projects.

Section 4. Effect of Amendments. The amendments to the Resolution contained herein shall be effective upon the concurrence of the Bond Trustee and the consent of the holders of not less than two-thirds of the Outstanding Bonds required by Section 9.2 of the Resolution and the satisfaction of such other conditions as set forth in Section 9.2 (the “Effective Date”). On and after the Effective Date, in the case of any inconsistency or contradiction between the provisions set forth in this Supplemental Resolution No. 16 and the Resolution, the provisions of this Supplemental Resolution No. 16 shall control.

CITY OF BURLINGTON, VERMONT

Board of Electric Commissioners

SUPPLEMENTAL RESOLUTION NO. 17

Be it Resolved by the Board of Electric Commissioners of the City of Burlington, Vermont (the “City”) as follows:

Section 1
Authorization

The Board of Electric Commissioners (the “Board”) hereby authorizes the issuance of revenue bonds in a principal amount not to exceed \$20,000,000 to provide for the financing and refinancing of various improvements to the City’s electric plant (the “Electric Plant”). The Board deems the issuance of revenue bonds as hereby authorized to be in the public interest.

The bonds are to be issued pursuant to Sections 2.1, 2.2, and 2.3 of the General Bond Resolution (as defined below) as Additional Bonds having such terms and details as provided in the General Bond Resolution and this Supplemental Resolution No. 17 (this “Supplemental Resolution”) consisting of this resolution of the Board, the resolution of the City Council authorizing and approving the issuance of the bonds, and a series certificate to be delivered prior to the issuance of the bonds by the City’s Chief Administrative Officer or the City’s Director of Financial Operations (the “Series Certificate”) as hereinafter provided. The bonds are to be issued as a single series of Electric Revenue Bonds Series 2022A (the “Series 2022 Bonds”).

The Series 2022 Bonds are to be issued in the aggregate par amount of not to exceed \$20,000,000.

It is estimated that the Series 2022 Bonds will be payable, by serial maturities or sinking fund installments or a combination of both, in the years 2027-2047, both dates being approximate.

The Board has determined that flexibility is required with respect to the offering and award of the Series 2022 Bonds in order to attain the lowest interest cost with respect to the Series 2022 Bonds. Accordingly, the Board determines to delegate certain authority relating to the sale and issuance of the Series 2022 Bonds to the Chief Administrative Officer of the City (the “Chief Administrative Officer”), the Director of Financial Operations of the City (the “Director of Financial Operations”), and the General Manager of Burlington Electric Department (the “General Manager”).

Issuance of the Series 2022 Bonds shall be subject to the authorizing resolution of the City Council of the City approving the issuance of the Series 2022 Bonds and the delegation of authority to the Chief Administrative Officer, the Director of Financial Operations, and the General Manager.

By adoption of the Series Certificate to be delivered by the Chief Administrative Officer or the Director of Financial Operations at the time of and in connection with the sale of the Series 2022 Bonds, the City shall award the Series 2022 Bonds to _____ (the “Underwriter”) and shall complete this Supplemental Resolution by insertion of the maturities, principal amounts, interest rates, redemption provisions, the period or periods over which all or any portion or portions of the

interest are to be capitalized, the inclusion of provisions for bond insurance, if any, and any other changes to the terms and provisions hereof which do not materially alter the substance of the transaction authorized hereby, and to approve the Underwriter's underwriting discount, and any original issue discount or original issue premium to be paid upon issuance of the Series 2022 Bonds, all of which are to be determined in the discretion of the Chief Administrative Officer or the Director of Financial Operations; provided, however, that the principal amount of Series 2022 Bonds issued hereunder shall not exceed the amount specified in the first paragraph of this Section 1 below, allowing for original issue discount or original issue premium.

To provide greater specificity regarding the scope of such delegation, the Board hereby delegates to the Chief Administrative Officer or the Director of Financial Operations the power to determine the interest rate or rates for the Series 2022 Bonds, provided that the true interest cost for the Series 2022 Bonds shall not exceed four and one-quarter percent (4.25%) per annum. At or prior to the delivery of the Series 2022 Bonds, the Chief Administrative Officer or the Director of Financial Operations shall execute a certificate setting forth the price at which the Series 2022 Bonds are sold and the interest rates on the Series 2022 Bonds.

In the event that the true interest cost of the Series 2022 Bonds would exceed four and one quarter percent (4.25%) per annum, the prior approval of the City's Board of Finance shall be required in order for the Chief Administrative Officer or the Director of Financial Operations to exercise the foregoing delegation of authority. In the event that the true interest cost of the Series 2022 Bonds would exceed six and one half percent (6.50%), then the further approval of the City Council of the City shall be required.

Section 2

Definitions

(a) Except as provided in subsection (b) of this Section or unless the context clearly indicates some other meaning, the terms used in this Supplemental Resolution which are defined in the General Bond Resolution (the "General Bond Resolution") adopted by the Board on October 7, 1981, as amended and supplemented, have the same meaning in this Supplemental Resolution as in the General Bond Resolution. The General Bond Resolution as amended or supplemented from time to time by Supplemental Resolutions is hereinafter referred to as the "Resolution."

(b) In this Supplemental Resolution, unless a different meaning clearly appears from the context, the following terms shall have the respective meanings given as follows:

"2020 RAN" means the Revenue Anticipation Note, dated as of June 22, 2020, issued by the City of Burlington in the principal amount of \$5,000,000, issued in anticipation of the receipt of revenues generated by the operations of BED, and maturing May 18, 2022.

"Bond Insurer" means, if the Series 2022 Bonds are to be insured, such Bond Insurer as identified in the Series Certificate.

"Bond Insurance Policy" shall mean such financial guaranty insurance policy, if any, as may be designated in the Series Certificate for the Series 2022 Bonds.

"DTC" means The Depository Trust Company, New York, New York, as the securities depository initially acting as Securities Depository.

“Series Certificate” shall have the meaning given in Section 1 of this Supplemental Resolution.

(c) The City hereby confirms the designation of each of the Chief Administrative Officer, the Director of Financial Operations, and the General Manager as an Authorized Officer under the Resolution. The City hereby appoints and confirms the Chief Financial Officer of Burlington Electric Department as an Authorized Officer under the Resolution.

Section 3 **Authorization of 2022 Series A Bonds**

There is hereby authorized to be issued a Series of Bonds designated “Electric System Revenue Bonds, Series 2022A” in the total principal amount of not to exceed \$20,000,000, with the principal amount as determined by the Chief Administrative Officer or the Director of Financial Operations and set forth in the Series Certificate. The Series 2022 Bonds shall bear interest at the rates and shall mature on July 1 in each of the years and in the principal amounts as determined by the Chief Administrative Officer or Director of Financial Operations of the City and as provided in the Series Certificate.

A portion of the Series 2022 Bonds may be designated as Serial Bonds and a portion may be designated as Term Bonds, as determined by the Chief Administrative Officer or Director of Financial Operations and as provided in the Series Certificate. With respect to Term Bonds, such Term Bonds may be subject to mandatory redemption to which payments are required to be made into the Sinking Fund Account to provide for their redemption as set forth in Section 5 hereof.

The Series 2022 Bonds shall be issued only as fully-registered bonds in the denomination of \$5,000, or any whole multiple thereof. The Series 2022 Bonds shall be dated their date of original delivery, and shall be numbered in numerical order from R-1 upwards in chronological order as issued.

The Series 2022 Bonds shall bear interest from their date of original delivery, payable semiannually on each July 1 and January 1, with the first interest payment date established in the Series Certificate. Interest shall be paid by the Trustee by check or draft mailed to the registered owner at the owner’s address as it appears on the registration books kept pursuant to the Resolution. The principal of and premium, if any, on the Series 2022 Bonds shall be payable at the principal office of the Trustee.

The Series 2022 Bonds, registration provisions and forms of authentication and assignment pertaining thereto shall be in substantially the form set forth in Exhibit A and Section 6 hereof, with necessary or appropriate variations, omissions and insertions which are incidental to their series, numbers, denominations, maturities, interest rates, paying agencies, registration provisions, redemption provisions and other details.

The Series 2022 Bonds shall be issued to fund the purchase, acquisition and installation of the Project, the fund the Debt Service Fund as required under the Resolution, and to pay certain costs in connection with the issuance of the Series 2022 Bonds.

The Series 2022 Bonds, registration provisions and forms of authentication and assignment pertaining thereto shall be in substantially the form set forth in Section 6 hereof, with necessary or

appropriate variations, omissions and insertions which are incidental to their numbers, denominations, maturities, interest rates, paying agencies, registration provisions, redemption provisions and other details.

Section 4

Redemption of the Series 2022 Bonds

Optional Redemption: The Series 2022 Bonds may be subject to redemption, either in whole or in part, from moneys held in the Special Redemption Fund or from redemption at the option of the City; provided that the Series 2022 Bonds may be subject to such limitations and restrictions on redemption or payment of premium upon such redemption as the Chief Administrative Officer or the Director of Financial Operations determine in their discretion and as provided in the Series Certificate.

Mandatory Sinking Fund Redemption: The Series 2022 Bonds that are Term Bonds, unless called for redemption as provided above, shall be subject to mandatory sinking fund redemption on July 1 of each of the years and in the amounts as provided in the Series Certificate.

There is further reserved the right to redeem the Series 2022 Bonds as a whole or in part at any time in any order of maturity and any amounts within maturities, but only from moneys available for such purpose in the Special Redemption Fund established by the Resolution, upon payment of the principal amount thereof together with the interest accrued thereon to the date fixed for redemption.

Section 5

Notice of Redemption of Series 2022 Bonds

Notice of intention to redeem shall be given by the Bond Trustee at least 30 days but not more than 60 days before the redemption date by mail, postage prepaid, to the owners of any Series 2022 Bonds which are to be redeemed. Failure to mail any such notice or any defect in such notice shall not affect the validity of the proceedings for such redemption with respect to the owners to whom such notice was so given. If any Series 2022 Series Bond is to be redeemed in part only, the notice of redemption shall state also that on or after the redemption date, upon surrender of such Bond, a new Series 2022 Bond or Bonds in principal amount equal to the unredeemed portion of such Bond and of the same series and maturity and bearing interest at the same rate will be issued.

Any notice of redemption may state that the redemption to be effected is conditioned upon the receipt by the Bond Trustee on or prior to the redemption date of moneys sufficient to pay the principal of and premium, if any, and interest on such Series 2022 Bonds to be redeemed and that if such moneys are not so received, such notice shall be of no force or effect and such Series 2022 Bonds shall not be required to be redeemed. In the event that such notice contains such a condition and moneys sufficient to pay the principal of and premium, if any and interest on such Series 2022 Bonds are not received by the Bond Trustee on or prior to the purported redemption date, the redemption shall not be made, and the Bond Trustee shall within a reasonable time thereafter give notice, in the manner in which the notice of redemption was given, that such moneys were not so received.

If less than all of the Series 2022 Bonds of any one maturity shall be called for redemption, the particular Series 2022 Bonds or portions thereof to be redeemed shall be selected by the Bond Trustee in such manner as the City in its discretion may determine; provided, however, that the portion of any Series 2022 Bond to be redeemed shall be in the principal amount of \$5,000 or some multiple thereof and that, in selecting Series 2022 Bonds for redemption, each Series 2022 Bond shall be considered as representing that number of Series 2022 Bonds which is obtained by dividing the principal amount of such Bond by \$5,000. So long as a book-entry system is used for determining beneficial ownership of the Series 2022 Bonds, if less than all of the Series 2022 Bonds within a maturity are to be redeemed, DTC and the DTC participants shall determine which of the Series 2022 Bonds within a maturity are to be redeemed by lot.

Section 6

Form of Series 2022 Bonds

The Series 2022 Bonds, registration, exchange and transfer provisions and forms of authentication and assignment pertaining thereto shall be in substantially the form set forth in Exhibit A attached hereto, with the necessary or appropriate variations, omissions and insertions which are incidental to their series, numbers, denominations, maturities, interest rate, paying agencies, registration provisions, redemption provisions and other details.

The Bonds will be issued by means of a book-entry system with no physical distribution of definitive Bonds, other than to or upon the order of the Securities Depository as hereinafter provided. One definitive Bond with respect to each date on which the Bonds are stated to mature, in the aggregate principal amount of the Bonds stated to mature on such date and registered in the name of Cede & Co., as nominee of DTC as the securities depository (the “Securities Depository”), will be issued and deposited with DTC and immobilized in its custody or the custody of the Trustee on behalf of DTC. The book-entry system will evidence ownership of the Series 2022 Bonds in the principal amount of \$5,000 or any multiple thereof, with transfers of ownership effected on the records of DTC and its participants pursuant to rules and procedures established by DTC and its participants. As long as the Series 2022 Bonds are registered in the name of Cede & Co. as nominee of DTC, payments of principal of, interest on and premium, if any, on the Series 2022 Bonds will be made to DTC as the sole bondholder. Transfer of principal, interest and any redemption premium payments to participants of DTC will be the responsibility of DTC, and transfer of principal, interest and any redemption premium payments to beneficial owners of the Series 2022 Bonds by participants of DTC will be the responsibility of such participants and other nominees of such beneficial owners. The City, the Trustee and the Bond Registrar will not be responsible or liable for such transfers of payments or for maintaining, supervising or reviewing records maintained by DTC, its participants or persons acting through such participants.

In the event that (a) DTC determines not to continue to act as Securities Depository for the Series 2022 Bonds or (b) the Chief Administrative Officer determines that continuation of the book-entry system of evidence and transfer of ownership of the Series 2022 Bonds would adversely affect the interests of the beneficial owners of the Series 2022 Bonds, the City will discontinue the book-entry system with DTC. If the City identifies another qualified Securities Depository to replace DTC, the City will make arrangements with DTC and such other Securities Depository to effect such replacement and cause to be delivered definitive replacement Series 2022

Bonds registered in the name of such other Securities Depository or its nominee in exchange for the outstanding Series Bonds, and the references to DTC or Cede & Co. in this Supplemental Resolution shall thereupon be deemed to mean such other Securities Depository or its nominee. If the City fails to identify another qualified Securities Depository to replace DTC, the City will cause to be delivered definitive replacement Series 2022 Bonds in the form of fully-registered Series 2022 Bonds in the denomination of \$5,000 or any multiple thereof (“Certificated Bonds”) in exchange for the outstanding Series 2022 Bonds as required by DTC and others.

Certificated Bonds issuable hereunder shall be in substantially the form of the Bonds registered in the name of Cede & Co. with such changes as are necessary to reflect the provisions of this Supplemental Resolution that are applicable to Certificated Bonds.

Section 7

Disposition of Proceeds of Series 2022 Bonds

From the proceeds derived from the sale of the Series 2022 Bonds, including accrued interest and original issue discount and net original issuance premium (if any), after payment of the underwriter’s discount and the bond insurance premium, if any, there shall be deposited:

(a) an amount, if any, required to be deposited in the Debt Service Reserve Fund in order to comply with the Debt Service Reserve Fund Requirement, taking into account the issuance of the Series 2022 Bonds;

(b) an amount equal to the premium for any credit enhancement purchased for any or all of the Series 2022 Bonds or for a Credit Facility to be used in lieu of a deposit of cash to the Debt Service Reserve Fund, if applicable, shall be paid to the provider of such credit enhancement or Credit Facility in immediately available funds;

(c) with the Bond Trustee in a segregated account, an amount, together with amounts to be paid directly by the City, estimated by the City to be required to pay expenses of issue related to the Series 2022 Bonds; and

(d) in the Construction Fund, the balance to be invested and applied to the financing of the costs of the Project.

The amounts provided under clauses (c) and (d) may be invested in securities eligible for investment in the Construction Fund. Any earnings thereon shall be added thereto. Any unused amount shall be transferred to the City and any remaining expenses of issue shall be paid by the City.

Section 8

Debt Service Reserve Fund

The Resolution requires that, at the time of issuance of each series of Bonds, there shall be deposited, from the proceeds of such series of Bonds or from other available funds, an amount necessary so that the total amount in the Debt Service Reserve Fund is not less than the Debt Service Reserve Fund Requirement (taking into account the issuance of the Additional Bonds). A deposit of cash into, or, in lieu of such cash deposit, as may be determined by the Chief Administrative Officer or the Director of Financial Operations of the City, a Credit Facility credited to the Debt Service Reserve Fund, will occur upon the issuance of the Series 2022 Bonds,

to the extent necessary to comply with the Debt Service Reserve Fund Requirement (taking into account the issuance of the Series 2022 Bonds.

Section 9

Renewal and Replacement Fund

The Renewal and Replacement Fund Requirement shall be maintained at \$867,000. No proceeds of the Series 2022 Bonds are to be deposited in the Renewal and Replacement Fund.

Section 10

Fuel Fund

No provision is made by this Supplemental Resolution for deposits into the Fuel Fund.

Section 11

Tax Exemption

The City hereby covenants and agrees to take all lawful action necessary to ensure that interest on the Series 2022 Bonds will remain excluded from gross income for federal income tax purposes under the Internal Revenue Code of 1986, as amended (the “Code”) and to refrain from taking any action which would cause such interest to become includable in gross income under the Code. Without limiting the foregoing, to the extent required to maintain the exclusion of interest on the Series 2022 Bonds from gross income under the Code, the City will file any information report and pay any rebate due to the United States in connection with the issuance of the Series 2022 Bonds and will restrict yield on investments of the proceeds of the Series 2022 Bonds and of moneys held in funds and accounts under the Resolution and allocable to the Series 2022 Bonds, all in accordance with the directions of bond counsel to the City which may be given from time to time. The Chief Administrative Officer, Director of Financial Operations, and each of the General Manager and Chief Financial Officer of the Burlington Electric Department are hereby authorized and directed to execute and deliver from time to time, on behalf of the City, such certificates, instruments and documents as shall be deemed necessary or advisable to evidence compliance by the City with the Internal Revenue Code and the applicable regulations of the United States Treasury promulgated under the Internal Revenue Code, with respect to the investment and use of the proceeds of the Series 2022 Bonds.

Section 12

Official Statement

The City hereby authorizes an Official Statement, to be completed with such insertions and with such modifications as the Chief Administrator, Director of Financial Operations or the General Manager, upon the advice of counsel and bond counsel to the City, approves. The City hereby ratifies its approval of the Preliminary Official Statement relating to the Series 2022 Bonds, its authorization of the use of the Preliminary Official Statement by the initial purchasers of the Series 2022 Bonds and its deeming of the Preliminary Official Statement “final” for purposes of Rule 15c2-12 of the Securities Exchange Commission.

Section 13

Continuing Disclosure

The City hereby authorizes and approves a Continuing Disclosure Undertaking with respect to the Series 2022 Bonds, under which the City will be obligated to provide financial information, operating data and financial statements with respect to the City and the Burlington Electric Department, notice of certain events if material, and certain other notices, to nationally recognized municipal securities information repositories and others, all as described therein.

Section 14

Bond Insurance

In the event that the Chief Administrative Officer or Director of Financial Operations determine that it is in the best interest of the City to obtain bond insurance for the Series 2022 Bonds, the Chief Administrative Officer or Director of Financial Operations may include provisions in the Series Certificate as may be reasonably required by the Bond Insurer providing the Bond Insurance Policy to insure the payment of principal of and interest on the Series 2022 Bonds (or any maturity thereof).

Section 15

Certain Findings and Determinations

The Board of Electric Commissioners hereby finds and determines as follows:

(a) No bonds have heretofore been issued under the Resolution except (1) the \$8,050,000 Electric System Revenue Bonds, 1981 Series A, dated November 1, 1981, (2) the \$55,950,000 Electric System Revenue Bonds, 1982 Series A, dated June 1, 1982, (3) the \$71,095,000 Electric System Revenue Refunding Bonds, 1983 Series A, dated March 1, 1983, (4) the \$70,765,000 Electric System Revenue Bonds, 1986 Series A, dated September 1, 1986, (5) the \$35,285,000 Electric System Revenue Bonds, 1992 Series A dated October 1, 1992, (6) the \$5,615,000 Electric System Revenue Bonds, 1992 Series B (Taxable) dated October 1, 1992, (7) the \$54,475,000 Electric System Revenue Refunding Bonds, 1996 Series A dated April 1, 1996, (8) the \$11,115,000 Electric System Revenue Refunding Bonds, 2001 Series A dated December 1, 2001, (9) the \$20,875,000 Electric System Revenue Refunding Bonds, 2002 Series A, (10) the \$10,000,000 Electric System Revenue Bonds, 2004 Series A dated April 15, 2004, (11) the \$8,775,000 Electric System Revenue Bonds, 2011 Series A dated October 13, 2011, (12) the \$3,135,000 Electric System Revenue Bonds, 2011 Series B (Taxable), dated October 13, 2011, (13) the \$12,000,000 Electric System Revenue Bonds, 2014 Series A dated August 28, 2014, (14) the \$5,820,000 Electric System Revenue Refunding Bonds, 2014 Series B dated August 28, 2014, (15) the \$4,010,000 Electrical System Revenue Refunding Bonds, 2017 Series A dated December 20, 2017, and (16) the \$5,410,000 Taxable Electrical System Revenue Refunding Bonds, 2017 Series B dated December 20, 2017.

(b) Other than the 2014 Series A Bonds, the 2014 Series B Bonds, the 2017 Series A Bonds and the 2017 Series B Bonds, there are no outstanding bonds, notes or other evidences of indebtedness payable from and secured by a lien on or pledge or charge upon the Revenues pledged under the Resolution.

(c) The 2020 RAN is a general obligation debt incurred by the City, issued for Electric Department purposes, and is expected to be paid from the Net Revenues of the Electric Department. The 2020 RAN is a general obligation debt of the City and is not secured by a pledge of Revenues secured by the Resolution.

Section 16

Consent to Supplemental Resolution No. 16

Each purchaser of a Series 2022 Bond and/or any future series of bonds issued under the Resolution by the initial purchaser(s) thereof shall be deemed to constitute consent to Supplemental Resolution No. 16, the amendment to the General Bond Resolution, and the terms and conditions contained therein.

Section 17

Award of Bonds; Preliminary Official Statement and Official Statement; Further Action

The Chief Administrative Officer and the Director of Financial Operations are, and each of them hereby is, authorized either singly or together:

(a) to execute and deliver a Bond Purchase Agreement submitted by the Underwriter, in a form as the signing officer may approve, the execution thereof constituting conclusive evidence of the approval of the Chief Administrative Officer or the Director of Financial Operations, as the case may be, in accordance with this Supplemental Resolution;

(b) along with the General Manager, to prepare, complete, make public and deliver to and authorize distribution by the Underwriter to prospective purchasers and investors of a Preliminary Official Statement relating to the Series 2022 Bonds, substantially in the form presented to the City Council at this meeting, with such changes and insertions as may be approved by the Chief Administrative Officer, the Director of Financial Operations, and the General Manager, acting singly, is hereby approved, and the Underwriter in respect of the Series 2022 Bonds is hereby authorized to use and distribute said Preliminary Official Statement in connection with the offering and sale of the Series 2022 Bonds. The Preliminary Official Statement may be further amended or supplemented. The City Council hereby authorizes the Chief Administrative Officer, the Director of Financial Operations, or the General Manager, acting singly, to deem such Preliminary Official Statement, as approved by the Chief Administrative Officer, the Director of Financial Operations, or the General Manager, final, as such term is used in Section (b)(1) of Rule 15c2-12 of the Securities and Exchange Commission (the “Rule”), except for the omission of certain information permitted by the Rule;

(c) along with the General Manager, to prepare, complete, make public, execute and deliver to and authorize distribution by the Underwriter of an Official Statement substantially in the form of the Preliminary Official Statement after the same has been completed by the insertion of the interest rates and other data with respect to the Series 2022 Bonds and by making such other changes or corrections as the signing officer or officers may approve, such officer’s or officers’ execution to be conclusive evidence of such approval;

(d) to execute and deliver a Continuing Disclosure Agreement substantially in the form attached to the Official Statement, with such changes or corrections as the signing officers or officers may approve, such officer’s or officers’ execution to be conclusive evidence of such approval. The City Council hereby covenants and agrees that it will comply with and carry out its

express responsibilities under the Continuing Disclosure Agreement. Notwithstanding any other provision of this Supplemental Resolution, failure of the City to comply with the Continuing Disclosure Agreement shall not be considered an event of default hereunder or under the Resolution; however, any holder or beneficial owner of any Series 2022 Bond may take such actions as may be necessary and appropriate, including seeking mandatory or specific performance by court order, to cause the City to comply with its obligations under this Section 17(d) and the Continuing Disclosure Agreement;

(e) to execute a Series Certificate evidencing determinations or other actions taken pursuant to the authority granted hereby, and such Series Certificate shall be conclusive evidence of the actions or determination of the Chief Administrative Officer or Director of Financial Operations as stated therein, which Series Certificate shall specify the following, which are to be determined in the discretion of the Chief Administrative Officer or Director of Financial Operations, subject to the authorization and restrictions contained in this Supplemental Resolution:

- (i) To determine the aggregate principal amount of the Series 2022 Bonds, in an amount not to exceed the amount authorized in the first paragraph of Section 1 hereof, and to determine that the proceeds to be derived from the issuance of the Series 2022 Bonds will be sufficient for the related purposes described in this Supplemental Resolution;
- (ii) To determine the maturities and maturity amounts of the Series 2022 Bonds;
- (iii) To determine which Series 2022 Bonds, if any, are to be designated as serial bonds and which Series 2022 Bonds, if any, are to be designated as term bonds, and to determine the sinking fund requirements for any such term bonds;
- (iv) To determine the redemption provisions, if any, of the Series 2022 Bonds in accordance with the provisions of Section 5 hereof;
- (v) To determine the dated date of the Series 2022 Bonds;
- (vi) To determine the date or dates of sale and issuance of the Series 2022 Bonds;
- (vii) To determine whether the Series 2022 Bonds, or any portion thereof, shall benefit from the issuance of an insurance policy or other form of credit enhancement;
- (viii) If a form of credit enhancement supports the payment of the principal of and interest on all or a portion of the Series 2022 Bonds, to accept provisions which are a condition precedent to the issuance of the form of credit enhancement to the extent such provisions are not inconsistent with the Resolution, or any provision of this Supplemental Resolution;
- (ix) To designate additional Authorized Officers of the City under the Resolution; and
- (x) To determine such other provisions of the Series 2022 Bonds as the Chief Administrative Officer or the Director of Financial Operations shall deem in the best interest of the City.

(f) to engage the services of DAC Bond (Digital Assurance Certification, L.L.C.) as the dissemination agent for the City with respect to the Bonds, and to adopt policies and procedures to assist in performing the City's obligations under any Continuing Disclosure Agreements for the Bonds and compliance with applicable securities laws;

(g) to enter into such agreements to obtain a Credit Facility to be credited to the Debt Service Reserve Fund in lieu of the deposit of moneys or in substitution of moneys previously deposited in the Debt Service Reserve Fund in accordance with the Resolution; and

(h) to execute such other documents, enter into such covenants and take such other actions as are necessary or advisable to effect the issuance and delivery of the Series 2022 Bonds and the application of the proceeds thereof in accordance with the provisions of this Supplemental Resolution.

EXHIBIT A
FORM OF BOND

No. R-

\$

UNITED STATES OF AMERICA
STATE OF VERMONT
CITY OF BURLINGTON ELECTRIC SYSTEM REVENUE BOND
SERIES 2022A

Maturity Date: _____
Interest Rate: _____ % Per annum
Bond Date: [_____]_____
Registered Owner: Cede & Co.
Principal Amount: _____ Dollars
CUSIP: _____

The City of Burlington, Vermont (the “City”), for value received, promises to pay to the Registered Owner of this bond, or registered assigns, but solely from the Revenues provided under the Resolution mentioned in this bond, on the Maturity Date, the Principal Amount, upon presentation and surrender hereof, and to pay interest, but solely out of the Revenues, at the Interest Rate on such Principal Amount from the most recent January 1 or July 1 to which interest has been paid or duly provided for or, if no interest has been paid, from the Bond Date, payable on January 1, 20__ and semi-annually on the first day of January and July in each year thereafter until payment of such Principal Amount, and, to the extent permitted by law, interest on overdue interest at the same rate. Interest shall be calculated on the basis of a 360-day year consisting of twelve 30-day months.

The principal or redemption price of and interest on this bond are payable in any coin or currency of the United States of America which at the time of payment is legal tender for public and private debts. The principal or redemption price of this bond shall be payable at the corporate trust office of Zions Bancorporation, National Association, in the City of Chicago, Illinois, the Bond Trustee under the Resolution, or its successor in trust. Interest on this bond shall be payable by check or draft mailed to the Registered Owner at its address appearing on the registration books of the City kept for that purpose at the corporate trust office of the Bond Trustee, determined as of the close of business on the applicable record date. The record date for payment of interest shall be the fifteenth day of the month next preceding the date on which the interest is to be paid or, if such fifteenth day is not a business day, the next preceding business day, provided that, with respect to overdue interest or interest payable on redemption of this bond other than on an interest payment date or interest on any overdue amount, the Bond Trustee may establish a special record date. The special record date may not be more than 20 days before the date set for payment. The Bond Trustee will give notice of a special record date by mailing a copy of such notice to the registered owners of all the Bonds outstanding at least 10 days before the special record date or in such other time and manner as the Bond Trustee may deem appropriate.

This bond is one of a series of bonds aggregating [Twenty Million Dollars (\$20,000,000)] in principal amount, issued by the City for the purposes of its Electric Plant pursuant to No. 298 of the Vermont Acts of 1953 as amended and a Resolution duly adopted by the Board of Light Commissioners of the City on October 7, 1981 (as supplemented and amended by one or more supplemental resolutions including a supplemental resolution duly adopted by the Board on _____, 2022, the “Resolution”) and as authorized by resolution of the City Council adopted February __, 2022. Bonds may be issued under the Resolution in one or more series from time to time.

This bond is issued pursuant to Section 433 of the City Charter and does not constitute an indebtedness of the City but is payable solely from the Revenues of the City’s Electric Plant.

Reference is made to the Resolution (as supplemented and amended) for, among other things, definitions of terms; the nature and extent of the security for the Bonds; the covenants securing the Bonds; the properties constituting the Electric Plant of the City; the manner of enforcement of the pledge; the terms and conditions upon which additional Bonds may be issued; the conditions upon which the Resolution may be amended or supplemented with and without the consent of the holders of the Bonds; acceleration of principal in the event of default; remedies and limitations of remedies; and the terms upon which Bonds may no longer be secured by the Resolution if sufficient moneys or specified securities are deposited with the Bond Trustee in trust for their payment. Copies of the Resolution (including any supplemental resolutions) may be inspected at the office of the Board of Electric Commissioners of the City and in the corporate trust office of the Bond Trustee.

The Bonds of this series maturing on and after July 1, 20__ are subject to redemption prior to maturity, at the option of the City, on and after July 1, 20__, at any time and in whole or in part, at a redemption price of 100% of the principal amount to be redeemed, plus accrued interest to the date of redemption.

The Bonds of this series maturing on July 1, 20__ are subject to mandatory sinking fund redemption on July 1 of each of the years and in the amounts as follows:

Year	Face Amount
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*Final Maturity

The Bonds of this series are subject to redemption prior to maturity as a whole or in part at any time in any order of maturity and amounts within maturities determined by the City and by lot within a maturity, at a redemption price equal to 100 percent of the principal amount but only to

the extent of moneys in the Special Redemption Fund, together with interest to the date fixed for redemption.

In the event this bond is called for redemption, notice shall be mailed not less than thirty (30) days prior to the redemption date, to the Registered Owner at the owner's address as shown on the books of registry. If this bond is of a denomination in excess of \$5,000, portions of the principal amount in the amount of \$5,000 or any multiple of \$5,000 may be redeemed. If less than all of the principal amount is to be redeemed, upon the surrender of this bond to the Bond Trustee there shall be issued to the Registered Owner hereof at the corporate trust office of the Bond Trustee, without charge, registered Bonds for the unredeemed balance of the Principal Amount. If this bond (or any portion) is duly called for redemption and notice is duly given, and if on or before the redemption date there are on deposit with the Bond Trustee or any paying agent for this bond sufficient funds to pay the redemption price and the interest on the principal amount redeemed to the date of redemption, this bond (or the portion to be redeemed) shall become due and payable upon the redemption date and interest shall cease to accrue from and after the redemption date on the principal amount to be redeemed.

Any notice of redemption may state that the redemption to be effected is conditioned upon the receipt by the Bond Trustee on or prior to the redemption date of moneys sufficient to pay the principal of and premium, if any, and interest on such Bonds to be redeemed and that if such moneys are not so received, such notice shall be of no force or effect and such Bonds shall not be required to be redeemed. In the event that such notice contains such a condition and moneys sufficient to pay the principal of and premium, if any and interest on such Bonds are not received by the Bond Trustee on or prior to the purported redemption date, the redemption shall not be made, and the Bond Trustee shall within a reasonable time thereafter give notice, in the manner in which the notice of redemption was given, that such moneys were not so received.

The Bonds of this series are issuable as fully registered bonds in denominations of \$5,000 or any integral multiple in excess thereof.

This Bond is transferable, subject to the limitations and upon the payment of the charges, if any, provided in the Resolution, at the corporate trust office of the Bond Trustee by the Registered Owner hereof in person or by the owner's attorney duly authorized in writing, upon surrender hereof together with a written instrument of transfer satisfactory to the Bond Trustee duly executed by the Registered Owner or the owner's duly authorized attorney, and thereupon the City shall issue in the name of the transferee a new registered bond or bonds of the same aggregate principal amount and series, interest rate and maturity as the surrendered bond. This bond may also be exchanged, alone or with other Bonds of the same series, interest rate and maturity, at the corporate trust office of the Bond Trustee, for a new Bond or Bonds of the same aggregate principal amount, series, interest rate and maturity, without transfer to a new registered owner, subject to the limitations and upon the payment of the charges, if any, provided in the Resolution.

The Bonds issued under the Resolution do not constitute an indebtedness of the City but are payable solely from and are equally and ratably secured by a pledge of the Revenues derived by the City from the ownership and operation of its Electric Plant.

The terms and provisions of this Bond and definitions of certain terms used herein are continued on the reverse side hereof and such continued terms and provisions and definitions shall for all purposes have the same effect as though fully set forth at this place.

This Bond shall not be valid unless the Certificate of Authentication hereon is signed by the Bond Trustee.

CITY OF BURLINGTON, VERMONT

By: _____
Chief Administrative Officer

(SEAL)

CERTIFICATE OF AUTHENTICATION

This Bond is one of the Bonds described in the Resolution mentioned in the Bond.

ZIONS BANCORPORATION,
NATIONAL ASSOCIATION,
as Bond Trustee

Date of Authentication:
_____, 2022

By: _____
Authorized Signature

For value received the undersigned sells, assigns and transfers this bond to

(Name and Address of Assignee)

Social Security or Other Identifying Number of Assignee

and irrevocably appoints _____ attorney-in-fact to transfer it on the books kept for registration of the bond, with full power of substitution.

NOTE: The signature of this assignment must correspond with the name as written on the face of the bond without alteration or enlargement or other change.

Dated:
Signature Guaranteed:

Participant in a Recognized
Signature Guarantee Medallion Program

By:_____

Authorized Signature